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NEW YORK SHELL CLUB NOTES No. 58 Jan. 1960

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NEXT MEETING: SUNDAY, FEBRUARY 7th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY

These NOTES are distributed by mail, free of charge, to all regular members of the NEW YORK SHELL CLUB (dues $2 per year, $1 for each of other members of the same family). Corresponding members (dues $1 per year) also receive the NOTES by mail. The NOTES are published ten times a year. Address material for publication to the EDITOR at 455 Beach 139th St., Rockaway Beach 94, N. Y. For other matters address Mrs. Josephine Wichern, 62-08 99th St., Forest Hills 74, N.Y.

TROPIC HOLIDAY

In June of 1959 my wife and I enjoyed a ten day holiday on Water Isle. This small island lies in the mouth of St. Thomas harbor in St. Thomas, Virgin Islands. It is a hilly, rocky place about a mile and a half long and half a mile wide. The vegetation is lushly tropical, intermixed with a great many varieties of cactus. Innumerable small lizards abound the island, and we have been told that there are iguanas measuring up to three feet, but we did not see any that size. The shoreline is rocky, consisting of small cliffs of lava, lined at the bottom with boulders of this same volcanic stone edging into the sea.

Mr. Phillips, who operates the hotel on Water Isle, leases the island from the United States Department of the Interior. The hotel has a main building housing the office, lounge, dining rooms, a bar and some terraces. The bedrooms are in separate buildings resembling motels, each with its own terrace overlooking the bay. Mr. Phillips is an ardent conchologist and displays quite a good collection of shells that are found in the vicinity. The shells are housed in glass topped tables equipped with shadow boxes, both in the dining rooms and in the lounge, so at each meal one can examine a new genera of mollusks. Books on mollusca can be found in the library including Abbott's "American Seashells". "Johnsonia" may be borrowed upon request.

We came at a poor time for collecting. The seas were calm and nothing was being thrown in. Yet, we accumulated a large variety of mollusks -- we live-collected 30 different species from the littoral zone, and found 35 more varieties represented in the beach specimens. Honeymoon Beach is a very fine sandy beach, and excellent for people like us who are poor swimmers. It has a very gradual incline and remains shallow for a good distance. There we found several live Fasciolaria tulipa, both the orange

and black varieties, also Tellina radiata. We did some digging in the sand in shallow water with what looks like a dredge attached to a pole. That way we found a great diversity of small shells.

It is among the rocks that the most interesting collecting is found. Around the stones and coral innumerable black sea urchins (Centrechinus antillarum) lay quietly waiting, it seems, for the outstretched unwary fingers. Everywhere one looks beds of small purple mussels can be seen. In and around everything are littered Livona pica, Astrea, Calliostoma, etc. Riding the back of the West Indian Top Shell are tiny Acmaea leucopleura. As you lift the stones out of place you find Chiton marmoratus and Chiton tuberculatus fastened to the underside. Limpets are everywhere. One can make a study of Nerita, there are so many of them: We found peloronta, versicolor, scabracosta; Neritina reclivata and Smaragdia viridis. As we swam with mask and snorkel, all around us were the wonders of the tropical sea. We saw fantastic formations of coral, colorful sea fans, sea anemonies, strange and beautiful fish.

We stayed on the island ten days, yet we feel that we hardly scratched the surface of the shelling opportunities offered there. Each stretch of rocky shore seemed to contain its own species of mollusk life. Flamingo Bay is unique in that it is the only place having a mud bottom, but we did not even set foot there. Too often we were tired or lazy and just wanted to lay around. We enjoyed ourselves thoroughly and, now that we are away from the lazy tropics and back in the old routine, the one thing that occurs to us most often is that we would like to go back.

. . . . Mr. and Mrs. ALBERT TAXSON

A REMARKABLE PIECE OF OLD CORAL

Recently I paid a visit to Water Isle off St. Thomas. This is a very attractive island about a mile long, with many bays and inlets. It has been developed as a hotel site by my host Mr. Walter Phillips, who is a shell collector and has a fine collection of shells, all from Water Isle, mounted under glass in his dining tables, making a very attractive and most interesting showing.

After lunch Mr. Phillips suggested going to Honeymoon Beach to try our luck on old coral -- so I got a good steel hammer, and Mr. Phillips, with the aid of a snorkel, finally picked up from the bottom a piece of dead coral which he estimated should be just right: not too old, or too new. It was about two or three feet long, up to a foot wide, and not very thick.

The outside was plastered with shells: purple and yellow jewel boxes, two or three kinds of Ark shells, Plicatula, Spondyloidea, Tegulas, Enginas, Murex hexagona and a host of other shells. It was riddled with holes and the tips of Lithophagas could be discerned within.

One blow of the hammer and a large assortment of worms came in sight. Then, as blow followed blow, I found many Lithophagas, both nigra and antillarum, both large and small, then some Lithophaga sulcata and aristata; then a few fat little Botula fuscas and Petricola lapicida. Close to the surface were several of the plump open Gastrochenas cuneiformis and the rare large Spengelaria rostrata; also a puzzling oddly shaped Corallio-

phaga coralliophaga -- no two shaped alike.

Really, this was quite a collection from just one piece of coral. As these borers are not too commonly found, and are not too easy to distinguish, I hope the following short descriptive matter will prove helpful:

Lithophaga antillarum Orbigny: This shell appears a pale brownish yellow in color -- the interior is almost white and somewhat prismatic. There is no calcareous deposit -- the outside is clean, and it is usually attached to its hole with a little byssus.

Lithophaga nigra Orbigny: This shell is a very dark (almost black) brown in color. (The young are lighter, more chestnut in color.) The interior is pale bluish.

Lithophaga aristata Dillwyn: Pale brownish yellow in color, the entire shell is covered with a smooth white calcareous coating, which extends beyond the end of the shell. The ends appear somewhat twisted. The interior is pale brownish and prismatic.

Lithophaga bisulcata Orbigny: Much the same as *aristata* in color, but the white calcareous crust is not so smooth, and the part which extends beyond the end of the shell is very pustulose, and it is not twisted.

Coralliophaga coralliophaga Gmelin: This shell is SO variable in shape, that I always have a hard time identifying it. In color it is a very pale amber, almost white. The fine thread-like radial sculpture seems to be the most distinctive characteristic. In this piece of coral, one shell was cigar shaped and seemed to be a pale *Lithophaga nigra*, but another looked like an unshelled peanut!

Botula fusca Gmelin: The shape of this chestnut brown shell is quite distinctive; it is a small, plump, slightly curved shell with strongly marked growth lines, a little over one-half inch long.

Petricola lapicida Gmelin: This plump white shell has a very peculiar false radial ribbing formed by the calcareous coating; the true sculpture is underneath this.

Rocellaria (Gastrochena) cuneiformis Spengler: This small fragile shell is white with fine concentric lines, a very odd twisted shape, - pointed at the top and broadly rounded at the bottom.

Spengelaria (Gastrochena) rostrata Spengler: A fairly large shell, about one inch or more, very fragile. It is easily distinguished by having a triangular patch on the posterior slope covered with heavy ridges which are brownish in color. It gapes very widely, and fits into a pear-shaped hole with a tiny entrance at the top.

. . . . GORDON USTICKE

SHELLS FROM FISH STOMACHS

By Catherine Ahders

This summer, when I was in Boothbay Harbor, Maine, and had exploited all the collecting areas within walking distance, and had absorbed all the picturesque scenery I could stand, I decided to spend my last day on a deep sea fishing trip. I knew from past experience that I was not the best of sailors, and that I was likely to feed the fish more than just the bait. I was right. But game girl that I am, I kept my line overboard, and somehow hooked two codfish and a pollack in spite of being very sick.

On the return trip, as is the custom, the deck hand cleaned the eating fish. Remembering my Shell Club lessons, I inched down to the chopping board and shyly asked if I could look inside the stomachs of any bottom feeders. Somehow, such insane requests are rarely refused, and I think there were some comments about how such a sick girl could stomach stomachs, and about a growing necessity for two chopping boards.

I was surprised to discover that not every bottom feeder has shells in its stomach; a number had only smaller fish and others had only crabs and lobsters within them. Of about six stomachs that I examined, only one had shells, but that one had them in abundance.

My technique for sorting these shells from the digestive matter in the stomach was to pop everything solid or semi-solid into a small jar of alcohol. At home I poured the contents into a glass, then I swirled the water around the glass to stir up the debris at the bottom, waited a few seconds until the heavier matter (shells) sank and digestive juices and molluscan innards were still suspended in the water; then I poured off the water and the suspended matter, watching carefully to see that no shells were in the latter. I repeated this procedure until the water was clear of suspensions. I dried the remains on a paper towel, although I do not think that was the best surface for the purpose.

Approximately 75% of the contents were Hiatella arctica Linne, young ones with scaled ribs. The rest, with a few exceptions, were Cerastoderma pinnulatum Conrad, the largest of which was under 1 cm. in length. The other species included one minute Thais lapillus, one minute Acmaea testudinalis, one minute, thin, pearly, orbicular shell which I believe is a Nucula or Nuculana, and one minute, high-spired shell which might be called a Mitrella if it did not have revolving ribs.

FOSSIL SHELLS FOR SALE

Donald Malick, of 5514 Plymouth Road, Baltimore 14, Maryland, has sent us a list of Miocene fossil shells from the formations around Chesapeake Bay which he is offering for sale. The list includes many bivalves as well as such gastropods as Fulgur (i. e. Busycon), Urosalpinx, Polynices, Scaphella, Nassa, Ecphora (the beautiful index fossil of this formation) etc., etc. The prices are quite reasonable, but in some cases the quantity is limited. In addition there are such things as sharks teeth, whalebone disks, and skate dental pavements.

A CHECKLIST OF MARINE MOLLUSCS OF WOODS HOLE AND VICINITY

by

Edward M. Slater

Woods Hole is situated on the SW corner of Cape Cod. The small town of Woods Hole is located sixty-five miles SSE of Boston and forty-five miles ESE of Providence. To the north and west of the Woods Hole vicinity is Buzzards Bay. To the south is Vineyard Sound, Woods Hole Passage and the Elizabeth Islands. Nantucket Sound is located east of the Woods Hole area. The waters around Woods Hole include a wide variety of bottoms; hard, soft, sandy, muddy, sticky, and rocky. There is no open water and thus no real surf in the entire area. In general, for such a small geographical area, Woods Hole is a rather rich locality for southern New England marine molluscs.

The town of Woods Hole is the home of the Marine Biological Laboratory. Since there have always been scientists in the Woods Hole vicinity, the area has been comparatively well collected. I am familiar with two check lists of marine molluscs that include the vicinity that I collected. The first of these is Verrill and Smith's Vineyard Sound list of 1874, which includes 188 species from an area of 135 square miles. The second list is the Bureau of Fisheries survey of 1911 which includes 215 species from a 565 square mile area.

The area where I collected is entirely located on the U. S. C. & G. S. map #348. This map covers an area of 4½ square miles, of which 2½ square miles are under water. There are about 14 miles of coast line on this map. I collected along 9 miles of this very irregular shore line. The 5 miles of shore that I didn't work include the Islands of Nonamesset, Naushon, Uncatana, Bull, Monohasett, Veckatimest and Ceder. These are the northernmost of the Elizabeth Islands. My collecting was entirely localized to the mainland of Cape Cod, Devil's Foot Island, and Ram Island, and took place entirely in the month of June. 64 species of marine molluscs were found, 42 of which were alive, and none of which were new to the area according to the previous lists. My personal collecting was limited to the shore line and to water not deeper than one fathom. However, with the cooperation and help of the Marine Biological Laboratory Supply Staff, dredging was accomplished down to five fathoms, which is the deepest area on chart #348 of the U.S.C. & G.S. Nobska Beach is the only beach in the area that faces the relatively deeper waters of Nantucket and Vineyard Sounds. Therefore, my check list doesn't include many of the deep water species of southern New England. Besides Nudibranchs and molluscs that live inside of fish (neither of which I collected), I believe that this list is relatively complete for the small area (2½ square miles) in which I collected.

1956 Slater

GASTROPODA: (33)

Tachyrhynchus erosum Couthouy
Epitonium lineatum Say
Busycon carica Gmelin
Busycon canaliculatum L.
Buccinum undatum L.
Anachis avara Say
Littorina obtusata L.
Littorina saxatilis Olivi
Littorina littorea L.
Urosalpinx cinerea Say
Lacuna vincta Turton
Polinices duplicata Say
Polinices heros Say
Polinices triseriata Say
Crepidula convexa Say
Crepidula plana Say
Crepidula fornicata L.
Aclis walleri Verrill
Bittium alternatum Say
Mitrella lunata Say

Gastropoda (Continued):

Nassarius trivittatus Say
Nassarius obsoletus Say
Nassarius vibex Say
Neptunea decemcostata Say
Melampus bidentatus Say
Eupleura caudata Say
Natica pusilla Say
Turbonilla stricta Verrill
Turbonilla striatula Brown
Thais lapillus L.
Odostomia seminuda Gould
Vermicularia spirata Philippi
Cerithiopsis subulata Montagu

PELECYPODA: (28)

Tellina agilis Stimpson
Astarte castanea Say
Lyonsia hyalina Conrad
Crassinella mactracea Lindsley
Barnea truncata Say
Corbula contracta Say
Venericardia borealis Conrad
Pecten irradians Lamarck
Arca transversa Say
Arca pexata Bruguiere
Pandora gouldiana Dall
Anomia simplex Orbigny
Crassostrea virginica Gmelin
Teredo navalis L.
Mytilus edulis L.
Laevicardium mortoni Conrad
Mulinia lateralis Say
Mercenaria mercenaria L.
Mya arenaria L.
Spisula solidissima Dillwyn
Ensis directus Conrad
Petricola pholadiformis Lam.
Nucula proxima Say
Modiolus modiolus L.
Cumingia tellinoides Conrad
Tagelus divisus Spengler
Modiolus plicatulus Lam.
Solemya velum Say

CEPHALOPODA: (2)

Ommastrephes illex illecebrosus Lesueur
Loligo pealei Lesueur

AMPHINEURA: (1)

Chaetopleura apiculata Say

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Abbott, R. Tucker, "American Seashells", Van Nostrand Co., Inc., 1954
Bureau of Fisheries, "Survey of Woods Hole and Vicinity", 1911, 2 vol.
Morris, Percy A., "A Field Guide to Shells of our Atlantic Coast", Houghton Mifflin Co., Boston, 1947
Verrill and Smith, "Invertebrates of Vineyard Sound & Vicinity", 1874.

AMERICN MALOCOLOGICAL UNION CONVENTION: From Mrs. Katherine V.W. palmer, President of the A.M.U. we have the following notice: "The A.M.U. will hold its annual Meeting in Montreal, August 9-12 1960 with the McGill University Museumas host. Mrs. Alice Turnham, Director of McGill University Musaum, Montreal, Canada, is chairman of the local arrangements. We hope that you may attend." We know that those of our members who have attended earlier meetings of the only society of shell enthusiasts will be there. For the others may we point out that by attending a refreshing summer vacation can be most interestingly bound up with a)a visit to a foreign country, b)a chance to rub elbows with fellow collectors from every state in the Union and 3)a chance to collect shells the farthest north that many of us will ever get. This can easily be the high point of the new year for many of us.

MKJ

NEW YORK SHELL CLUB NOTES No. 59 Feb. 1960

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NEXT MEETING: SUNDAY, MARCH 6th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY

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THE ANNUAL ELECTION OF OFFICERS

was held on February 6th, the first meeting of our eleventh year. Our efficient staff of 1959 was complimented for their fine work, then renominated and unanimously voted in for 1960. Anthony D'Attilio, George E. Jacobs, Walter H. Jacobs, M. Karl Jacobson and Fred Tobleman were on hand and it was noted that they are five of the eight persons who met as strangers with a mutual interest, way back in 1949--the first stirring of what soon became the NEW YORK SHELL CLUB. See what they started!

PLANS FOR THE ANNUAL FIELD TRIP:

Of the sites considered, Orient Beach State Park, at the northeastern tip of Long Island, won the vote for our annual field trip. The date chosen was Saturday, May 21st (The posting of May 22nd was in error--we should have checked the calendar) when low tide will be in the early afternoon. A bus will be chartered. Such are the plans pending final arrangements which will be discussed at our meeting March 6th.

A NEW ORGANIZATION:

According to an item in the latest issue of the "Archiv fuer Molluskenkunde", the malacologists of Europe met recently and have laid the foundations for the establishment of a new European association of malacologists to be called the "European Malacological Union". This, of course, is in addition to the national associations that already exist in France, Holland, England, etc.

mkj

SHELLING IN SPAIN

The malacological land and fresh water fauna of Spain is unique in Europe. There are many interesting endemic species. The best known and most spectacular is Iberus gualterianus, - a large flat, scabrous, sharply keeled Helix, a shell I was most anxious to collect. Dr. Siro de Fez of Valencia, my contact in Spain, informed me it lived in the hills about Almeria, but that the chances of finding it during the extended summer drought were slight. He was right, so I had to content myself with the few specimens I "collected" in his shell room.

Although the season was unpropitious for the collecting of all or most of the interesting forms, I was amazed to see how common and widespread is the colorful Theba pisana. I found this everywhere around Valencia - on telegraph poles, on stone walls, on grasses in empty lots, in almond groves, even under letter boxes. It is a very common article of diet in Spain, where it is considered a less desirable culinary object, because of its generally smaller size, than the large Otala lactea and Iberus alonensis. But whatever the size, the Spaniards cook them in a most delectable garlic and spice sauce and make a dish so tasty that even a midwestern Swede from Wisconsin, the most conservative people in the world food wise, licked his chops and asked for more. As a matter of fact, I ate many more mollusks than I collected: "chipirrones", tiny squids and cuttlefish prepared in a small casserole; "sepia", broiled bits of an octopus-like inhabitant of the Mediterranean; Murex brandaris, delicious with a cana of beer; I even had "perceber", the stalk of Lepas, the goose barnacle. The markets were always full of stands selling only cephalopods, bivalves, and snails. One of the most interesting sights was a batch of huge, reddish Glycymeris which, however, I could not get my landlady to prepare for me. "Demasiado duras" - too tough - she told me.

One of the best shelling localities was on the grounds of Castle Bellver overlooking the town of Palma in Mallorca. Here I found Clausilias and many other small but interesting shells. I roused the suspicion of the watchmen there (which I satisfied) but the amazed incredulity of my fellow tourists was a tougher proposition. Finally they were satisfied that I was only a harmless nut, and they even got to help me to collect.

In the Alhambra in Granada I found only one tiny Helicella on a palm tree near the Court of the Lions, but in the ruins of Medina Sidonia near Cordova I had better luck. But most of the shells were common ones - Otala, Helicella, Rumina etc. - which, however, I collected for the locality record.

Morroco is famous for many fine forms of Helix, but our headlong dash through the arid countryside did not permit me to stop and look for shells. However, at the entrance to the Caves of Hercules, near the town of Tangier, I spent about fifteen minutes filling match boxes with a small but stout and nicely sculptured little Helicellas.

I came to Spain with all the rough clothes and other collecting impedimenta which I used so auspiciously in Cuba and Jamaica, but with hardly such good results. Although shelling was a little disappointing, there were so many other things to do in Spain that I look back to the wonderful days there with an almost painful nostalgia. Some day I shall return, snails or no snails.

. . . . . M. K. JACOBSON

Karl's report on his trip included a travelogue. With his approximately 100 color slides he took us on a quick tour of castles in Spain, lush gardens with fountains, the arid plains of Andalusia, the cave dwellings of Grenada, scenes of cities with their distinctive architecture. He had an excellent series on the beautifully situated very ancient Roman and Moorish fortress of Sagunto. Of course, each picture was accompanied by information as to whether he did or did not find snails at this site

Our vagabond, who looked quite Latin in his beret, just naturally explored the gastronomic delicacies of the country. One day, at lunch in a small restaurant, some American tourists entered. He observed their wide eyes and obliged them by becoming violently articulate (in Spanish) about having his lunch disturbed. They became somewhat apprehensive of the atmosphere, and left hurriedly. . . Yes, he went to a bull fight, but reported that it does not compare to the excitement of a shelling trip.

As a final summary on his weeks in Spain, he stated firmly that all the women were beautiful.

dr

THE NEW HAWAIIAN SHELL NEWS

We were delighted last week to receive Vol. VIII, No. 3 (New Series No. 1) of the Hawaiian Shell News, dateline January 6, 1960. This is a beautifully printed (not mimeographed!) publication of eight pages, size 8¾ by 11 inches, superb quality paper with fine photo and other reproductions. Included also was an insert of four glossy pages entitled "HAWAIIAN MARINE MOLLUSKS, Recent and New Species" by Clifton S. Weaver. This first insert is on Terebridae and contains a plate in black and white of eleven photographs, all actual size, of five species of the Terebra of Hawaii, including one new species. All the features that appeared regularly in the old mimeo HSN also appear in the new publication, written in the same sprightly style.

This is a publishing event of the first magnitude in the shell world. It is the first regular popular shell periodical since the demise of Paul Reed's MOLLUSCA way back in 1948. The mimeographed house organs of the various shell clubs are in a category by themselves. There is a brief account, in the publication at hand, of all the planning and thought that went into the appearance of this number. We congratulate our associates from United State Number Fifty for their energy, devotion, hard work, skillful planning and final success in producing this marvelous piece of work.

The least we can do is to support them to the utmost of our ability: Subscription is $4.00 per annum for twelve issues. Write to

Hawaiian Malacological Society,
2777 Kalakaua Avenue,
Honolulu 15, Hawaii, U. S. A.

Subscriptions run from January to December, so if we hurry we can get in on the ground floor.

MKJ

PATTERNS IN CONUS TEXTILE AND OMARIA COMPLEXES

by ANTHONY D'ATTILIO

Although much has been written on the problems of the taxonomic relationship of certain Conus groups, no attempt has been made as far as this writer knows to study the characteristic color patterns and designs. Two groups will be here described and illustrated with the object of making certain relationships apparent. It is hoped that this will be of use to amateur collectors who are confused by the multiplicity of names encountered when dealing with what may well be only a few polymorphic species. No conclusions are to be drawn, however, as to the ultimate specific validity of these names without including essential data drawn from the broadest possible study of the total animal, a task well beyond the scope of this paper.

PART I: TEXTILE GROUP

The first group to be dealt with is Conus textile Linne, and those species and varieties which partake closely of the same pattern scheme. The common form of Conus textile found throughout the Indo-Pacific, on the basis of color and design, will be found in detail to look like Figure 1. There are, as can readily be seen, two motifs in this illustration. These are modified from specimen to specimen throughout its range. Figure 1a shows the motif of triangular markings and Figure 1b shows the second motif. In general these two motifs are interwoven over the entire shell in the majority of specimens. The extreme examples would be shells having only motif 1a or 1b over the complete shell. A large series of specimens from the entire range would show all combinations of these characters up to both extremes. Undiscriminating students might find such forms tempting for the creation of new names, especially when such examples are found in conjunction with variations in spire height, degree of obesity, and angularity of shoulder.

Another character in the pattern development of Conus textile is the tendency of this design to arrange itself in spiral bands. A stylized rendition of this banding is shown in Figure 2. This banding is modified at times even on individual shells, so that one side of the shell is only poorly banded while the reverse side is well marked. A further modification, and one responsible perhaps for a number of specific names, is the size of the two basic motifs in proportion to the size of the shell. At times, for reasons best known to Nature herself, the white triangular markings are all of very small size and the general tone of the shell thereby also becomes relatively dark, due to the greater proportion of brown that outlines the white markings. Such shells are in addition sometimes flushed with a grey-blue color adding to their darkness. Whether due to ecologic or other conditions not understood, colonies of such shells may live in areas inhabited at the same time by more typical populations.

Melvill's arrangement of the Conus complex under discussion is pertinent. (Melvill, Revision of Textile Cones, Journal of Conchology, IX, pp. 305, 310.) Although it does not necessarily coincide with the writer's opinion in detail, it should be studied for one possible way of understanding the interrelationships. A word of necessary warning that cannot be too often expressed is to remember that the names here used are to be considered valid only when proven to be the original author's concept of that

PATTERNS IN CONUS TEXTILE

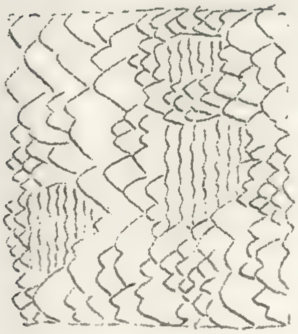

Figure 1

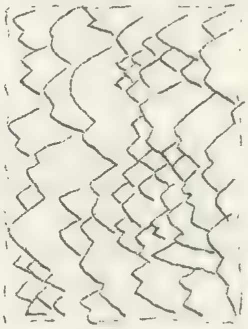

Figure 1 a

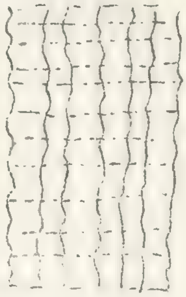

Figure 1 b

Color of motif Figure 1 a : White background, markings are delineated with brown lines.

Color of motif Figure 1 b : Wavy axial lines sometimes more faintly crossed by spiral lines. These lines are of the same brown color as those defining the white markings in the previous fig. A lighter shade of the same brown color forms the ground color of the shell wherever the pattern of fig. 1 b is dominant.

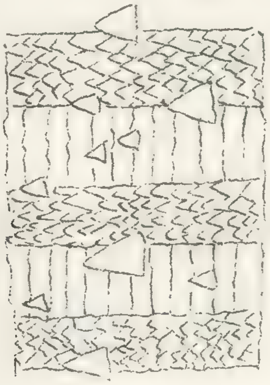

Figure 2

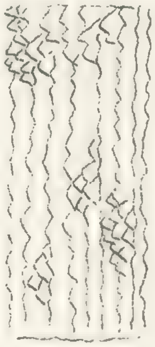

Figure 3

Figure 2 shows the two motifs arranged in a more regular banded pattern with sporadic white markings floating across the intervening areas of axial wavy streaks.

Figure 3 The white markings are shown here reduced to small size and turning at times into almost parallel zigzag lines. Although seeming to imitate the character of motif in fig. 1 a, the ground color remains that of the white markings.

species, and this is possible only be a comparison of the original types. It is more than probable that no student has yet checked all these names against types. and. therefore, all names here used are to be accepted only provisionally as the author's species.

Group III, TEXTILIA of Melvill's subgenus Cylinder Montfort is broken down into three separate subgroups as shown below:

(a) Conus textile Linne

1 tigrinus Sow.
2 vicarius Lam.
3 verriculum Reeve
4 concatenatus Kiener
5 scriptus Sow.
6 canonicus Hwass-Brug.
7 condensus Sow.
8 dalli Stearns

(b)

Conus abbas Hwass-Brug.
" panniculus Lam. var. textilinus Kiener
" corbula Sow. var. eutrios Sow.
" archaepiscopus Hwass-Brug.
" victoriae Reeve var. complanatus Sow.
" cholmondeleyi Melvill
" prevosti Sow.

(c)

Conus pyramidalis Lam. var. convolutus Sow.
" gloriamaris Chem.
" legatus Lam.
" paulucciae Sow.
" telatus Reeve

(Part II of Mr. D'Attilio's article takes up the Omaria-Pennaceus Complex, and will appear in an early issue.)

NEW YORK SHELL CLUB NOTES No. 60 March 1960

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ANTHONY D'ATTILIO
DOROTHY RAEIHLE

NEXT MEETING: SUNDAY, APRIL 3rd, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY

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THE FIELD TRIP:

On SATURDAY morning, MAY 21st, at 9:30 A. M., a chartered bus will collect the motley crew (that's us wearing field clothes) with its assortment of strange paraphernalia that will be waiting, rain or shine, in front of HOWARD JOHNSON'S on QUEENS BOULEVARD, just a block or so WEST of the 63rd DRIVE, FOREST HILLS, stop on the INDEPENDENT SUBWAY line. (E or F train to Roosevelt Ave., CHANGE there to local GG train to 63rd Drive.) Aboard, a tab of $1.50 per person will be collected, this to ease the blow to the treasury in chartering a bus. We are scheduled to arrive at Orient Beach State Park at noon or a little before. And BRING YOUR LUNCH. We have waited a long time for this trip out to the end of the island, and we anticipate a good crowd and a good day.

THE MAIL BAG BRINGS AN INVITATION

from W. Donald Kuntz, 1830 Park Ave., Bridgeport 4, Conn., who writes: "I intend to drive to the A. M. U. meeting in Montreal this August. I am seeking some travelling companions this time to break the monotony of the trip. I would also like to make arrangements sufficiently far in advance so that we who are going in my auto may plan upon side trips, and, if acceptable to all, departure and arrival times, etc., may be suitably planned. I will accept up to five passengers in my nine-passenger station wagon. I will make all arrangements as to customs, etc., since I would have to do this for myself in any event. Reservations will be on a first come, first served, basis, and all riders must agree to be my guests and not attempt to pay for gasoline, oils, service or tolls, or any other travel costs. They may write me at the above address, or see me at the next meeting, where I hope to be present."

PATTERNS IN CONUS TEXTILE AND OMARIA COMPLEXES

by ANTHONY D'ATTILIO

PART II: THE OMARIA-PENNACEUS COMPLEX

Collectors have frequently lumped together all their difficulties in unraveling the "Tent cones", as though there were little to distinguish the Textile from the Omaria series or for that matter the Marmoreus complex. If their style of color and ornamentation is studied however, it becomes apparent that there can be no mistaking the larger groupings. Nonetheless, once these "species" have been separated into definite groups, the real difficulties become apparent. As relative size and shape of the shell afford the only distinguishing basis for species differentiation among many of the textile cones, so the same can be said of the omaria series. If anything, specific characters in the latter group are more fluid and intergradation even more marked among many if not all species

A diagnosis of the ornamentation of these shells discloses the following: The body color is typically a rich red to yellow brown; variations occur and individuals may have a fairly light brown, orange, or golden color. Since dead shells, normally brown when alive, fade to a golden color after lying exposed on tropical beaches, none but live collected material should be used for study purposes.

All the "species" in this series have the body whorl encircled with what might be described as narrow fillets. These fillets are, as here illustrated, decorated with white and dark alternate dashes or dot and dash, to which the application of the word "necklace" might be equally as well applied. These fillets may be slightly or strongly raised from the surface; they may be very apparent as a rich ornamentation, or very obscure and visible only under magnification.

Further ornamentation consists of white trigonal markings which are sometimes relatively large and scattered loosely over the shell; in other species these markings are small, gathering themselves into spiral bands or diagonal chains. At times in addition some of these trigonal markings substitute for some of the white dots or dashes on the fillets. A series of such trigonal dots on the fillets may gradually increase in size spirally in the direction of shell growth and then scatter over the shell. (Figure 1, much enlarged.)

Other characters noted:

1. The fillets do not appear on the spire of the shell although the white trigonal markings do occur there.
2. The trigonal markings are mostly uncolored, but in one species the white is partially shaded with a darker violet gray (Conus praelatus Hwass-Bruguiere).

The ornamentation of the above enumerated forms undergoes many variations. Nature always has her many little surprises, and here it is well to be on watch for clever and subtle variations. To give an example, in such wide spread areas as Hawaii and Mozambique, two species inhabiting these

waters demonstrate similar variations. Although not exceptionally difficult to describe and illustrate, the actual shells must be studied to realize the transformation that the design elements above described undergo:

The trigonal markings become extremely small and crowded; the fillets, usually well separated, now are almost touching; and the whole resembles a very fine design of whitish threads running horizontally or vertically, or sometimes becoming reticulated. (Figure 2.)

As previously indicated, there is no attempt here to evaluate the specific validity of these forms. The attempt is rather to make relationships clearer and to facilitate the division of the more complex groups.

FIGURE 1

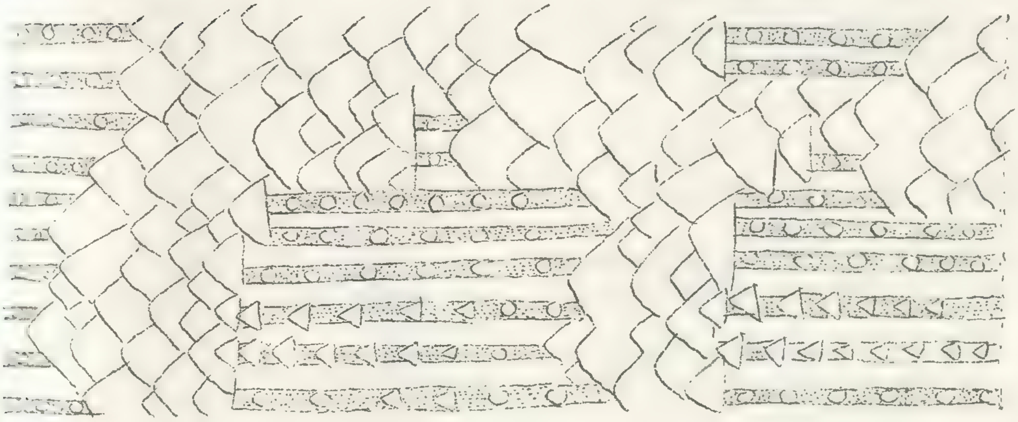
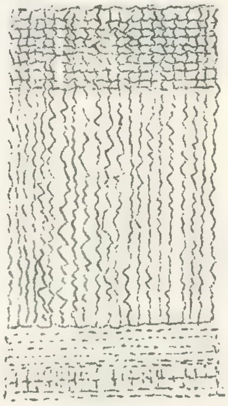


FIGURE 2



Melvill's (see "NOTES" No. 59) proposed classification of this complex is as follows:

(a) EPISCOPI

Conus episcopus Hwass
    omaria Hwass
        1. pennaceus Born
        2. rubiginosus Hwass
        3. magoides Melvill
        4. marmoricolor Mel.
        5. madagascarensis Sow.

Conus praelatus Hwass
    elisae Kiener
    (?) aulicus Linne
        1. propendus Melvill
    (?) auratus Hwass
    magnificus Reeve

(b) CROCATI

Conus colubrinus Lamarck
    crocatus Lam.
    racemosus Sowerby

The position of the (b) crocati group would be difficult to understand due to the extreme scarcity of any specimens for study.

In addition, Conus stellatus Kiener should be added to the (a) EPISCOPI

In conclusion, two additional names should be considered:

1. Conus aureus Hwass-Brug. The distinctive color pattern and form relate this species closest to the textile series. The strong close set raised striae are nonetheless specifically distinctive.
2. Conus auricomus Hwass-Brug. (= Conus clavus of authors, non Conus clavus Linne, fide Dodge 1953, "A Historical Review of the Mollusk of Linne") Superficially resembling some forms of auratus or aulicus, this is distinguished readily from any species in Melvill's EPISCOPI by a complete lack of any color or ornamentation on the strong revolving striae.
3. It is doubtful whether there is any real relationship between Conus aulicus Linne and Conus auratus Hwass on the one hand and the other species in Melvill's "EPISCOPI".

A NOTE ON KIRA'S "COLL. ILLUST. OF THE SHELLS OF JAPAN"

Several years ago this very beautifully illustrated book on Japanese shells was published, and most collectors have a copy of this or the 1959 edition.

What is of interest beyond the fine printing of this book is that a number of manuscript names credited to Kuroda were used in conjunction with what appears to be the first pictorial publication of these new names. Although this of itself might not have constituted first publication as far as the rules of priority are concerned, the point is that there is, in addition, a short description of some of the species concerned in the text of the book (which is in the Japanese language).

In Volume 20, #4 of the "Venus", The Japanese Journal of Malacology, Dr. Tokubei Kuroda has correctly assigned two of these new species to Kira. The two are:

Latiaxis kawamurai Kira 1959
(=Latiaxis kawamurai Kuroda MS.)
Ancistrosyrinx (Coronasyrinx) pulcherissima Kira 1959
(=Ancistrosyrinx pulcherissima Kuroda MS.)

There remains the question of the correct assignment of author to the other Kuroda MS. names in the Kira book.

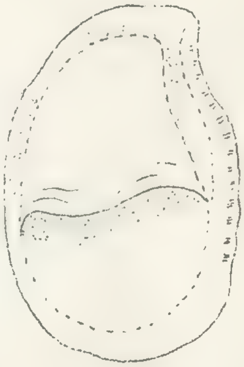
Of additional interest besides some newly described species in this issue of the "Venus" is the new name Latiaxis kiranus Kuroda in place of L. kieneri Hidalgo for the Japenese shell received by many collectors under the latter name. Dr. Kuroda's reason for the change is that L. kieneri from the Philippines is definitely different.

. . . ANTHONY D'ATTILIO

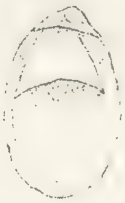
THE SUBGENERA OF CREPIDULA IN THE NEW YORK AREA

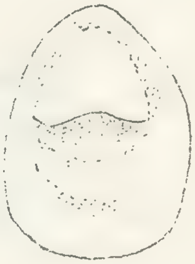
by M. K. JACOBSON

Perhaps the wisest way to deal with the local Crepidula, or slipper shells, is to call them all *Crepidula* and let it go at that. This is what Charles W. Johnson did in his famous "List of Marine Mollusca of the Atlantic Coast" Boston, 1934. However, according to Thiele, we have at least two subgenera, and perhaps three, - one for each of our species.



Crepidula fornicata is the type of the genus Crepidula Lamarck 1799, as well as of the subgenus Crepidula. It is characterized by Thiele as (my translation) having "a depressed apex which is situated on the margin" (p.249). *Crepidula convexa* might also belong here, since in many species the apex is likewise on the lower margin (i. e., on the same level as the base). However, we have frequently seen specimens in which the apex is slightly raised above the margin. If we decide that this latter sign is characteristic of our local species, then we can put it into the subgenus *Garnotia* Gray 1867, in which "the apex is somewhat raised, not situated at the margin". The type of this subgenus is *Crepidula adunca* Sowerby, from California. In the few specimens of this species in my collection, the apex points backward, like in our C. convexa, but it is decidedly raised above the margin or base.





Our last Crepidula, the lady slipper or *Crepidula plana*, is quite different from the other Crepidulas and perhaps really deserves to be in a different subgenus. It belongs in *Janacus* Mörch 1852, of which the type is *Crepidula unguiformis* Lamarck, from the west coast of South America. For a time our species was thought to be this one, and in many older lists it appears as such. However Dall soon saw that it was different and stated that it should have the name given to it by Say in 1822. The subgenus is defined as follows: "Shell colorless, flat, longish, apex situated at margin, septum somewhat indented on the left edge.

Concerning Crepidula fornicata: The height of the shell varies, depending upon its habitat; some, taken from the carapace of a horse-shoe crab, are extremely flat, others, growing on rounded pebbles and stones, are very arched. On the muddy, stone-free beaches, these snails, hard put to it for a solid place to rest, attach themselves to one another until an eight inch "stick" of Crepidulas is formed, each shell clinging tightly to the one underneath. Because of this habit of clinging to objects in large numbers, Crepidula has been regarded as a menace to young oysters, which are literally suffocated under the weight of bulky slipper shells. It has been accidently introduced into England, where it is causing considerable uneasiness among oystermen.

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Bronx 62, N. Y.
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Midland Park, N. J.

A change of address:
(See Sept., 1959 listing)

BIER, Andrew G.
23 Birchwood Park Drive,
Jericho, N. Y.

NEW YORK SHELL CLUB NOTES No. 61 April 1960

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Historian
FRED CANNON

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FIELD TRIP: SATURDAY, MAY 21st, to ORIENT BEACH STATE PARK, LONG ISLAND.

All reservations were quickly taken for our chartered bus, which will leave PROMPTLY at 9:30 A. M. from in front of Howard Johnson's, Queens Boulevard, just a block or so west of the 63rd Drive, Forest Hills, stop on the Independent subway line. (E or F train to Roosevelt Ave., Jackson Heights; CHANGE there to the local GG train to 63rd Drive, the 4th stop.) Those members planning to travel by car should have no route problems: A quick look at the map will show several eastbound roads to where you can pick up state route #25 to the northeastern tip of Long Island. Watch for the turn-off to ORIENT BEACH STATE PARK. (Do NOT go on to Orient Point, which is only a ferry landing. Check your map.)

CONGRATULATIONS TO THE BOSTON MALACOLOGICAL CLUB ON ITS GOLDEN JUBILEE!

From Boston came the news: "Our Club is celebrating its Golden Jubilee this year. When an organization weathers the seas of time for fifty years, its members don't want to 'clam up' about it--not if their world is an oyster, or any other mollusk that happens along. Plans are under way for a banquet in May (although the Club was 50 yrs old on March 10th). We also hope to publish a booklet to commemorate this occasion, a copy of which will be sent to you 'hot from the press'. Best wishes, Gladys McCallum."

IT'S ABOUT TIME

that we reported to you on the happenings at our recent club meetings: 1959 went out with a flourish -- at our December meeting the "Shell of the Month" was Halia priamus, presented by Mr. Anthony D'Attilio, then Mr. Stanley Sokoloff gave us an excellent, illustrated report on his trip to Bermuda. (He has promised to put it on paper for these NOTES, so you'll have it in a future issue.) And 1960 opened with a bang! An audience of over 200 was on hand in the 5th floor lecture hall to learn something about . . . .

UNDERWATER LIFE IN MICRONESIA

Dr. and Mrs. Jerome M. Schweitzer have travelled most of the "seven seas", and on each trip have taken motion pictures in color. On January 10th they enthralled us with one of their beautiful films:

Micronesia was described as a group of islands scattered about in about two million square miles of ocean -- 700 square miles of land with 33,000 people, where the breadfruit tree is, both literally and figuratively, the tree of life. He introduced these people and their way of life -- their art, their industry and economics, their "long houses", a festival, poi and coconut, fish and clams, and a complete demonstration of the ancient practice of the use of betel nut from first preparation to final chew. (Want the recipe?) Dr. Schweitzer enlisted the aid of several of these excellent people of the islands to assist him in his work and found them invaluable. (Must not forget the women's costumes on Yap: their bulky skirts of grass, just clearing the ground, seemed patterned after an eighteenth century court costume with wide panniers, and with the waistline shaped to hang from a pointed bodice -- which bodice had not been adopted into the costume. Dr. Schweitzer said they gave him the impression of perambulating haystacks!)

The story of Tridacna gigas was new to most of us: We learned that as an infant this Tridacna has a byssus, which it detaches as it grows, then it finds itself a sunny spot. This giant clam is found only in the more shallow waters as it must have sun for the growth of algae on its mantle; the algae, shining yellowish-green in the filtered light, serves as an additional food supply for the animal. The mantle itself is white. Skilled divers were shown as, using a long thin blade, they quickly cut the muscle of a Tridacna before the giant clam could clamp shut, then they extracted the meat without danger. (This meat, including mantle, is eaten raw in its entirety. Dr. Schweitzer commented that the muscle tastes like celery.) After the meat was extracted and saved, the two divers wrestled with the 400 lb. shell and brought it to the surface, but not without an occasional trip topside for a deep breath of fresh air.

The Schweitzers worked in depths of from 10 to 30 feet, and made a practice of taking a daily walk on the bottom of the ocean -- a wonderland of such complexity that it has not actually even been touched by exploration. They showed us pictures of an anemone rejecting a proffered stone, then accepting and eating a snail. There were close-ups of live conus with its proboscis extended, cypraea with its freshly laid egg mass, colorful nudibranchs, sea worms, examples of commensalism, black coral, blue starfish, lavender sea fans, and more and more.

Their work was not all in the realm of beauty -- they were assisting the Bishop Museum in Hawaii in the study of teredo, and doing research on the source of life in the sea by collecting and photographing the minute animals and plants of the plankton.

This picture left us anxious to see more of the Schweitzers' film library. Perhaps we may have that pleasure sometime in the future.

dr

NEW STATUS FOR VOLUTA PULCHRA,SOWERBY

by GEORGE E. JACOBS

Voluta pulchra is one of the better known Volutas, and has long been admired by shell collectors. This shell was first described by Sowerby in the Tankerville catalogue in 1825. At that time only one specimen of this shell was known to the scientific world and, although it was a worn and discolored specimen, Sowerby saw in it a shell of such potential beauty that he called it Voluta pulchra, the beautiful Volute. No locality was given by him for this specimen, but it was one of the shells collected by Captain Cook's expedition, and was probably collected on the north coast of Queensland.

In 1849 Reeve, in his monumental work "Conchologia iconica", in describing Voluta pulchra used for his illustration of this species a shell collected by Macgillivray during an expedition sponsored by the Earl of Derby. This shell was collected by him on Heron Island, in the Capricorn group, which is about forty miles east of Gladstone, Queensland, during his voyage on the exploration ship "Fly". This was one of the shells given to the British Museum by the Earl of Derby, and was studied there by Reeve. Since the shell resembled the Voluta pulchra described by Sowerby in 1825, Reeve used Sowerby's name, but illustrated the shell collected by Macgillivray. From Reeve's time on, every conchologist who published a book on shells used Reeve's illustration. And so until 1958, a period of 109 years, this is the shell that was universally known as Voluta pulchra.

But then something new came up, just recently. A series of shells was discovered on the east coast of Queensland, near Keppel Bay, which looked similar to Voluta pulchra, yet was different. What was this shell? The Australian collectors and conchologists pondered and pondered. These coastal shells were more elongate and had three bands of small dark spots circling the shell, in contrast to the bands of large spots on the Voluta pulchra from Heron Island. (The key character is the number and size of the dark spots circling the shell; in the Heron Island shell of comparable size only about 15 to 18 spots up to 2 mm. long are visible on the ventral surface, whereas Sowerby's illustration shows about 35 spots. Coastal shells have spot counts ranging from 25 to 60 or more. The spines are also conclusive, for in Sowerby's illustration they are low and not outstanding, a characteristic of the coastal shells, whereas in Heron Island shells the spines are erect, outstanding, and continue down the sides of the body whorl as low ridges.) Finally it was discovered by going back to the original shell described by Sowerby that his original description was that of this newly discovered shell, and was NOT the Voluta pulchra from Heron Island described by Reeve!

Historically it was found that any shells in England in 1825 or before, from this locality, must have come from Captain Cook's expedition, and that this expedition did not visit Heron Island at all, or any other offshore islands; but did land on the coast of Queensland in the vicinity of Bustard Bay and at Thirsty Sound, about one hundred miles north of Rockhampton. Hence a strange phenomenon developed: Here was a shell, not known to have been found from 1825 till 1956, a period of 131 years! Since this shell was obviously the Voluta pulchra described by Sowerby, what was to happen to Reeve's shell which everyone had accepted as valid, but was not the same shell? To solve the problem, Sowerby's original shell was designated as the type for Voluta pulchra, which is the one just

recently rediscovered, and the shell which we all know as Voluta pulchra was given a new name: It is now known as Voluta or *Cymbiolacca pulchra woolacottae, McMichael*, named in memory of the late Mrs. Lee Woolacott, who was a voluntary worker in the Department of Mollusks of the Australian Museum, Sydney, Australia.

And so we see that the shell known as Voluta pulchra, Sowerby for over a century is not Voluta pulchra, Sowerby any more. Conchology is a strange science with many ramifications which sometimes produce startling results.

Jan. 10, 1960

20th CENTURY MERMAN

Bob Roth, president of the "Long Island Dolphins", a member club of the Empire State Underwater Council, visited us February 7th. He brought with him much of his equipment explaining and, where possible, giving us a "dry run" demonstration. Emphatically he impressed on us that anyone interested in diving with SCUBA (self-contained underwater breathing apparatus) MUST take a THOROUGH course of instruction FIRST--before any attempt is made to "try it out and see how it works". Such equipment is not for the unqualified, as great dangers can attend the inexpert use of the equipment. Another hard and fast rule is that one must ALWAYS have a companion on a dive. He told us that courses of instruction in the use of SCUBA are available at several pools of the Y. M. C. A.

For less intensive work, he demonstrated the mask and snorkel, and said that in line with his experience he would recommend the glass safety lens mask covering only the eyes and nose with the use of the straight snorkel tube and mouthpiece, rather than the full face mask and snorkel with inverted "U" bend and floating ball stopper. Style of flipper is up to the individual--just make sure they fit properly, as you'd be in much trouble if you lost one when well off-shore. Also, an inflatable safety belt is a good precaution.

The weekend previous to his visit to us, his group had visited a lake in upstate New York and cut a hole in the 8" thick ice in order to get down into and explore the lake. (Br-r-r-r! Some people just can't wait for summer!) He wore a sponge rubber "wet" suit for this expedition, and vowed that he was quite comfortably insulated.

He went on to tell us of the pleasures of the sport in other waters, and to show us a few of the things retrieved from the sea bottom, among which were northern coral from the New Jersey coast, "red" coral from the Mediterranean, "black" coral and a cypraea received from a diver on the famous "Calypso", a Murex from Bermuda, sea fans and a pleuroploca from the Florida Keys, and an ancient spike.

We kept him busy answering questions that came thick and fast and ranged all the way from price to predators. As for sharks, Mr. Roth said he could not speak from experience, but that his group theorized that a swimmer in motion on the surface would be more vulnerable than the man completely underwater as, from a shark's-eye view, the surface swimmer would simulate the flailing of a wounded fish.

dr

SHELL OF THE MONTH, FEBRUARY 7th

Nick Katsaras told us of his excitement when he finally received word that a 24" specimen was on its way. Soon the postman arrived cradling it in his arms, wrappings askew--a 22½" Megalotractus proboscitiferus from far away Queensland, Australia. (Nick figures that a soft rule was used to measure it originally.) It was covered with a periostracum which was in rather unsightly condition, so he decided to clean it. After some search he acquired a container which seemed suitable, then went to the market for 3 gallons of chlorox. Not enough. When his friend, the manager of the supermarket, saw him leaving the store with 2 more gallons of chlorox, his curiosity burst forth: "Nick! What in the devil are you going to do with ALL that chlorox?" And on hearing the story left his busy market to go home with Nick to watch the procedure. (Could there be another shell enthusiast in the making?) At any rate, even with the addition of some water the shell still protruded from the liquid, necessitating cleaning first the base and then the spire. To make it even more awkward, the container started to leak. However, Nick's efforts were rewarded: The shell was a real "spectacular" as he displayed it, and surprisingly light in weight for its size.

At the conclusion of his tale Nick announced, with a somewhat sheepish grin, that this prize Megalotractus proboscitiferus will be offered at his auction next September 25th!

ALSO ON FEBRUARY 7th:

Miss Weingartner showed us with color slides the beautiful scenery of British Columbia. She rather resignedly announced that on this 2,000 mile trip there were no shells to be found -- it was too dry last summer.

EXCHANGE DEPARTMENT:

"A Straight Trade: My Harvard Classics (complete, 51 volumes, excellent condition) for seashells and/or literature on same or on marine life. What have you?"

Henry Gordon
1 Washington Sq. Village, N.Y.12,N.Y.
Phone: AL 4-7615

PORCELAIN TILES,

6" square, 7/32" thick, each individually hand painted with a picture of a shell, can be obtained from Mr. Walter N. Carpenter, 7115 Healy Drive, Springfield 14, Virginia. The price is $1.65 each. They include such species as Murex regius, Mitra episcopal, Conus marmoreus, and sixteen others including four Pecten nobilis in pink, yellow, purple or orange.

A CORRECTION:

In our March, 1960, supplement to the roster, please make the change of title from Mrs. to Miss Marian M. Schroth of Woodhaven. Our apologies, Miss Schroth.

THE SUBGENERA OF OUR LOCAL LITTORINA

by M. K. JACOBSON

Normally we find three species of Littorina in our area, each in numbers large enough to make them "common" or "abundant", as the lists put it. *L. Littorea L.* is placed by Thiele into section (or subgenus--this is a matter of opinion) *Algaroda* Dall 1918. The section is defined as follows: "Spire raised, top-like; lacks strong sculpture; oviparous". Johnson left it, together with the little *L. obtusata* L., in the section Littorina s.s. (s.s.=in the strict, or narrow, sense), which is defined as follows by Thiele: "Spire low, no distinct sculpture; viviparous". Obviously then, the high spired littorea cannot remain here. However, L. obtusata does have a low, a very low, spire and, if it is viviparous, it belongs to Littorina s.s. I have never seen egg capsules of obtusata but I don't know if it is viviparous. Frankly, I hope it is; otherwise we'd have to erect another (preserve us!) subgenus for low spired oviparous shells (*Littorina s.s. is for high spired, oviparous*). Our third species, *L. saxatile* Olivi, is put by Johnson into the section *Littorivaga* Dall 1918. This is defined by Thiele thus: "Shell with spiral lines; viviparous". The type is *L. sitchana* Philippi from Alaska.

L. littorea

L. obtusata

In addition to these three species, we also find fossil specimens of the southern species *L. irrorata* Say. This obviously belongs with littorea in the section Algaroda. Hence the full name of our Littorinas are:

Littorina (Algaroda) littorea Linne 1758
Littorina (Algoroda) irrorata Say 1822
Littorina (Littorivaga) saxatile Olivi 1792
Littorina (Littorina (?)) obtusata Linne 1758

L. saxatile

NOTE: I have a set of L. sitchana in my collection from Washington state. The shells are covered by deep, spiral lines, such as one would expect of the section Littorivaga. However, young specimens of our own littorina are also thus covered. These lines disappear as the shell becomes mature. In fact, the young look so different from the mature forms because of these deep lines, that frequently collectors think they have found another species. Yet the section calls for: "shells lacking in strong sculpture". For this reason some might question the wisdom of erecting a section on this characteristic. In other words, at what stage of its growth does a littorea lose its deep lines and go from section Littorivaga (spiral lines) to section Algaroda (lacking sculpture)? As Gilbert and Sullivan put it: "Here's a how dee do!"

L. irrorata

NEW YORK SHELL CLUB NOTES No. 62 May 1960

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NEXT MEETINGS: SATURDAY, MAY 21st, 1960. FIELD TRIP TO ORIENT BEACH STATE PARK. For details refer to page 1 of issues #60 (March) and #61 (April), or telephone our president George E. Jacobs at WA.8-3528.

SUNDAY, JUNE 5th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY.

These NOTES are distributed by mail, free of charge, to all regular members of the NEW YORK SHELL CLUB. (Dues: $2 per year, $1 for each of other members of the same family). Corresponding members (dues $1 per year), also receive the NOTES by mail. The NOTES are published ten times a year. Address material for publication to the EDITOR at 455 Beach 139th St., Rockaway Beach 94, N. Y. For other matters address Mrs. Josephine Wichern at 62-08 99th St., Forest Hills 74, N. Y.

ARTICLES AND ITEMS for these NOTES may also be sent to the other members of the editorial staff: Mrs. George Raeihle, 7924 Ankener Avenue, Elmhurst 73, N. Y., and Mr. Anthony D'Attilio, 44 Lynwood Drive, Valley Stream, N. Y. We mention this at this time because editor M. K. Jacobson will be leaving in June for a summer of work (and, no doubt, play) in Germany and Spain, and therefore will be temporarily unavailable.

NEW PUBLICATION:

"SEA SHELLS OF THE FAR EAST" by NYSC members Annabel and Dick Wetzel. This attractive booklet is beautifully illustrated with 15 plates (in black and white) of collector's items from Japan, Taiwan, The Philippines, Korea, Malaya and Hong Kong. The price is $1.00 and it is published by: World Wide Sea Shells, P. O. Box 24105, Houston 29, Texas.

IN REVIEW:

At our March 6th meeting Mr. Albert Taxson showed color slides of Ocracoke, both coasts of Florida, and of his holiday at Water Isle. (See NOTES #58). Having contended with snow and ice and curtailed transportation facilities in order to attend our meeting that day, his pictures had us all ready to board the next south-bound plane.

Dr. Walter H. Jacobs' timely report on the New Jersey oyster industry, Mr. Henry S. Gordon's excellent paper on Linnaeus, Catherine Ahders' lively treatment of long-dead theories, and many more of the interesting goings-on of the NEW YORK SHELL CLUB will be covered in forthcoming issues of these "NOTES". (ADV.)

ECOLOGICAL NICHES OF THE SEASHORE

by MATHILDE WEINGARTNER

We of the New York Shell Club have a very intense interest in shells, but we are so interested in our subject that we are inclined to forget that other factors are involved in life on the seashores. In fact, if it were not for these other factors, there would be no shells for us to study. Today I am trying to bring to your attention the many interesting plants and animals as well as chemical and physical forces that are involved in the life of the shells we so much admire.

The seashore is many things to many people: a place of beauty, a place for recreation, a place of livelihood, a place of ease or a place of violent physical forces. The seashore is an outpost of survival: land plants reach their end at the water's edge and marine creatures invade the land. Distribution is influenced by geographic range, climatic conditions and physical forces.

The seashore is not a continuous stretch of sandy beach -- there are estuaries, river mouths, rocky coasts, salt marshes and mudflats. The distribution also takes on a vertical slant, which corresponds to the climatic distribution on land. The deep waters of the sea vary only about 5° in temperature, and are near freezing. Each type of environment has its own creatures, which are well adapted to their special kind of life.

The SAND DUNES interest the shell collector very little, as there are no living forms of shells here. On the upper beach we may find among the drift, flotsam and jetsam and some dead shells that have been washed up by waves and tide. These shells are usually badly beach worn and of little value in any but possibly scientific collections. Plant growth is here regulated by salt and moisture. No land plants can grow near the high tide mark because of the saline content of the water and because their root systems are continually undermined by the tides. Any beetles that are found among the dead seaweeds had been blown out to sea and drowned. Sea purses are the egg cases of the skate, the young having been hatched before the purses are deposited on the shore.

BETWEEN THE TIDES is a difficult place for plants and animals to live. They must prevent being washed away, either by burying in the sand or by affixing themselves to some mooring. They must avoid drying out at low tide or drowning at high tide. Also, at high tide or during rain storms there is a diminishing amount of salinity in the water, whereas when drying takes place at low tide the salinity is increased. The pressure of salt against living membrane (osmotic pressure) is 350 lbs. per square inch for sea water as against 29 lbs. for fresh water. During evaporation the pressure is increased.

At low tide some of the creatures bury in the sand and thereby retain their water supply which in turn holds their food supply, as well as oxygen. Some of the creatures carry air bubbles in their gill chambers. Some of the animals move up and down with the tide.

Most of the food of the creatures living between the tides comes from the sea -- such as plant-like sea weeds (Fucus) Diatomes and other forms of plankton, and such animals as protozoans, which furnish much of the food for mollusks. Generally clams bury in the sand along with marine worms

and some crabs. This helps to hide them from their enemies during low tide, protecting them from shorebirds, gulls, etc.

INSHORE BOTTOMS: Here the change in temperature is less pronounced and more gradual than on land. The salinity of the water is more or less constant. Also the water is well oxygenated because of the turbulence of the waves and because the water is dashed against the shore. Here there are no land plants or animals. Eel grass is the only seed plant, but there is a great quantity of sea animals.

Green algae need a considerable amount of sunlight, whereas the brown algae can stand a diminishing amount. Below 50 fathoms so little light penetrates that only the red algae can live there and filter out the blue and ultra-violet rays of the sun. Without the red pigment they would die. The red algae seem more fragile than others, but the waters are quieter at the greater depth.

In SHALLOW WATERS we find the free swimmers which also have some link with the bottom. The water temperature governs the kind of life we find here. There is a gradual change in temperature up and down through the water. Here marine animals depend upon color for camouflage, such as the light color of the mackerel and scallop underneath. Pipefish have marsupial habits, like the sea horse. The sea horses like warmer waters, therefore will be more frequently found in more southerly waters than the pipefish, particularly in the winter time. There is no marine species that cannot at some time be found in or near the seashore. Scallops swim freely by opening and closing their valves.

ROCKY COASTS: Here we have a rapid transition between land and marine species. On the face of the cliffs we find many nesting birds, secure from predatory animals like foxes and skunks. The surf beats against the rocks with great force, therefore the water is thoroughly aerated and supports marine creatures needing lots of oxygen. On the stonebluffs we find a few land plants, such as lichens, which with their acids help to break down the rock. These plants must be able to take the salt spray with its resultant evaporation and high saline content. Most damage to these plants is done in storms that are accompanied by rain which reduces the salinity. The nesting birds, like cormorants, gulls, gannets and eiderducks have considerable nitrogenous waste, which in our rainy climate is washed into the sea, but in dry Chile it can be gathered for fertilizer.

On these rock coasts, holdfasts are required for all creatures so that they will not get washed away. The limpets and chitons cling to the rocks, the mussels develop byssus to hold them in place. Barnacles are firmly attached while their tentacles search the water for food. Periwinkles close their operculum to prevent their drying out at low tide. Further down in the water we meet the lobster, the purple sea urchin, and starfish.

TIDE POOLS provide holdfasts in rocks and depressions for all creatures. They are spaces among rocks, flooded at low tide and retaining their water when the tide recedes. They are self-supporting communities and the animals and plants propagate in this environment. Tide pools are homes for many creatures which are unable to survive in an intertidal zone. They represent deep water forms. Each tidepool is a miniature seashore in itself. Here we find: sea weeds, limpets, sponges, rock borers, snails, small fishes, hermit crabs, worms, anemones and sea urchins.

SALT MARSHES on the Atlantic Coast represent the product of a gently sloping gradient of the coastal plain, the alluvial deposits of erosion of mountains. On the Pacific Coast they are the result of the estuary deposits of silt. Salt marshes are distinguishable from any other marsh. They are regularly flooded with salt water. But the water there is not as salty as ocean water, as it is diluted by fresh water from the rivers. The ocean is 3.5% salt; the marsh at high tide 2.9%, and in rain and at low tide as low as 1.5%. There are a number of species of marsh grass, and the turf they build helps to maintain the saline content and water table. Numerous birds make their home here and feed on small shrimp, prawns, and Melampus snails. The Melampus snails are transitional between water and terrestrial fauna. They breathe air, and move up and down along the grasses with the tide. Fiddler crabs live in banks at the edge of the creeks and disappear into their holes when they feel the vibration of your step. This is the home of the salt marsh mosquito -- the female lays her eggs on dry land which is then flooded by the spring rains, giving the wrigglers a chance to develop.

HARBORS, RIVERS AND ESTUARIES provide shelter from heavy surf, yet the tides rise and fall. A mingling of salt and fresh water is to be found here. The rivers bring down silt, which is deposited in the form of deltas and bars. The silt may smother the more sedimentary forms of life. There are also changes in salinity with the change of tide. The dumping of garbage and sewage into the rivers increases the organic content considerably, but industrial wastes are a real deterrent to flora and fauna. On the other hand, piers and spiles harbor a number of boring mollusks, and barnacles find suitable anchorage on concrete. Gulls are excellent scavengers, and many fish run up the rivers to spawn. Our harbors and rivers are biologically depleted, largely through human efforts. We have discouraged migrating fish, we have introduced dangerous bacteria to shellfish, we have enticed enough Herring Gulls to upset the balance of nature, and our shores are unsightly and unnatural places. Could we but have, as in the midst of the city of Washington, an island sanctuary for the preservation of wildlife and the enjoyment of man.

(Ed. note: Miss Weingartner's talk was accompanied by a comprehensive selection of color slides.)

COLLECTION FOR SALE:

R. Julian Dashwood, a long time collector whose name is familiar to many of us, wishes to sell his collection of 1450 specimens of 820 species. He is prepared to sell either the three sections : Cypraeidae, Conidae and Volutidae, for $450.00; or the whole collection for $525.00. (Freight would be additional) His address:
R. Julian Dashwood, Mauke, Cook Islands, South Pacific.

SCIENTIFIC COLLECTOR WISHES SPECIMENS:

Mr. Raymond J. de Preux, member of the Royal Zoological Society of N. S. W., whose address is P. O. Box 2339, Sydney, New South Wales, Australia, collects any marine life specimen that can be preserved, spectacular or otherwise. In exchange he offers specimens characteristic of the Australian molluscan fauna.

SHELLING IN MARTINIQUE
by GORDON USTICKE.

This French island is a good distance south of St. Croix; I flew over with Bob Siddall of the Philadelphia Shell Club for a few days shelling. Enquiries elicited the fact that the best shelling was to be had around VAUCLIN on the East Coast, and around ST. ANNE at the southeast end of the island. Much of the West Coast has no beaches, just vertical cliffs of lava dropping sharply into the sea; it was here that Mt. Pelee erupted in 1902, causing 40,000 deaths. What few small beaches there are have black lava sands.

We luckily managed to rent a car, a sturdy little Peugeot; and after a two hour drive over roads mostly bad, but very scenic, reached the fishing village of Vauclin. On enquiry we were told there were plenty of shells about a mile to the south, so we drove as far as we could and walked the last few hundred yards -- The tide was out, and a considerable expanse of beach was uncovered, with very shallow water to the reef about a mile offshore.

There were simply millions of Batillaria minima; in places the sand was black with them in all their variations. As usual there were many Strombus gigas on the shore, and a few Strombus costatus. We found a number of pairs of Asaphis deflorata, many Melongena melongena, rather small, also Strombus pugilis pugilis, some very large, also many Chiones and Anomalocardia brasiliensis; but, our most exciting find was a few Voluta musicas, of a rather thin slender type, including one which was a pale pink color.

Many old mangrove roots were encrusted with Crassostrea rhizophorae, intermingled with Isognomon alatus, usually in a dark purple color; and many Brachidontes recurvus. One large heavy shell puzzled me for some time: it was a Pugilina morio.

We returned a different way - through FRANCOIS, and enjoyed an excellent road all the way back.

The next day we went to TRINITE, also on the East Coast, about the middle of the island, and took the road out on the peninsula of LA CARAVEL; about two miles in we saw a pond by the shore on the north side. The tide was fairly low and one could wade out several hundred yards. Unfortunately the water was rather muddy. We found several shells on the beach, including some broken Voluta musica. On the rocks I found a number of Littorina mespillum var. minima. Unlike St. Croix, these were all crawling about on the rocks above the water line, and all had good sharp spires.

Later we tried the south side of the peninsula, and had a long drive through cane fields till we finally reached the water. We found a quantity of Littorina nebulosum (2 varieties) living, as usual, on dead stumps by the water's edge -- also several tiny pink Tellins, as well as Chione granulata, Chione subrostrata, a shell new to me, and Donax denticulata.

As we drove back we passed many people dressed in black and white costumes and with painted faces, getting ready for the Ash Wednesday Carnival.

On another trip to ST. ANNE in the southeast, I passed through MARIN, where, I was told, a big shell collector by name URSULET had lived.

ST. ANNE is on a big bay, the beaches had many Arcas, and there were huge piles of young Strombus gigas that had been opened for food; some fine large Murex pomum and Murex brevifrons, a large Xenophora, a few Voluta musica, and a beautiful Strombus gallus -- also several Cymatiums, Natica canrena, Thais deltoidea, etc.

I was struck by the fact that a large percentage of shells to be found in Martinique can also be found at St. Croix, - a few notable exceptions being Voluta musica, Melongena melongena, Pugilina morio, and Chione granulata and subrostrata.

A short time spent on a tiny stretch of beach below the Fort in FORT DE FRANCE, the Capital city, produced a surprising variety, including many very fine Strombus pugilis and some interesting Murex.

A total of over 150 varieties was collected.

SINISTRAL SCAPHELLA

A newspaper story by one Tom Morgan, datelined Naples, Florida, is accompanied by a photograph of two specimens of Scaphella junonia -- one left-handed, the other the usual right-handed variety. No size is mentioned. We quote from Mr. Morgan's article: ". . It was picked up on the beach at the end of Naples' busy Fifth Avenue by three women who never before were able to find more than a piece of a junonia. The shell was discovered on Thanksgiving morning, 1959, by Mrs. Ariel Schulz, owner of Shell Art Industries and her helpers, Mrs. Dolorez Collins and Mrs. Bea Cole. 'We came down to put up some stock, but the day was too pretty,' related Mrs. Cole. 'We went to the beach and spotted the shell. Dolorez and I dove for it and bumped our heads and Ariel got there first.'

The shell was dead with no 'animal' in it and only a little green algae outside to mar its brown spotted white beauty. A healed crack down one side shows the rarity suffered a bad accident sometime during its lifetime.

'You do have quite a find, as this is the first record I know of a left-handed specimen', wrote Harold A. Rehder, curator of mollusks at the Smithsonian Istitute at Washington, D. C. His view was backed up by a famed St. Petersburg shell collector, Dr. R. L. Alsaker, most of whose collection is now on display in the Smithsonian.

Neither expert put a price on the shell although there were strong hints of interest in obtaining it. However, the women are holding it back for the Naples Shell Club's first shell fair Feb. 26-28 at the Woman's Club."

All of which goes to prove that we should not ignore the public beaches -- shells are where you find them. Not in the same class as the left-handed junonia, of course, but unusual for these parts, is a perfect Siliqua costata. Mrs. Bella Kudatsky recently found one on the beach at Atlantic City, and about three summers ago the writer found one complete with periostracum at Jones Beach off #1 parking lot -- intact, though surrounded by footprints.

dr

NEW YORK SHELL CLUB NOTES No. 63 June-July-August 1960

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NEXT MEETING: SUNDAY, SEPTEMBER 18th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY.

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THE 26TH ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION

will be held August 9 - 12, 1960, at McGill University, Montreal, Canada. All sessions August 9, 10, 11 will be in the Redpath Museum, McGill University Campus. The all day field trip August 12th will be to Mont St. Hiliare (about 25 miles from Montreal), a preserve with primeval forest, Lake Hertel, streams, and several peaks.

Registration 9:00 A. M. to 12 noon, Tuesday, August 9th, Redpath Museum. Registration fee $2.00. A. M. U. annual dues $2.00.

For reservations write to Mrs. Fay Briggs, c/o Paleontological Research Institution, 109 Dearborn Place, Ithaca, New York before July 1, 1960, giving day and time of arrival and number in your party. Also give information as to whether or not you expect to attend the banquet and/or go on the field trip, and whether you will use bus or private car for the field trip. If you wish accomodations at the Royal Victoria Dormitory ($5.00 per day including breakfast), give dates of your reservation for a room or rooms.

If interested in hotels or motels, write to Charles Smith, Director, Tourist Bureau, 2055 Peel St., Suite 101, Montreal, Canada. Please mention the A. M. U. when writing to him.

. . . . .

(Editor's note: The Customs booklet states that for border crossings you will be required to show an identification such as a birth or baptismal certificate, or a voter's registration card, or naturalization papers, or other documentary evidence of your citizenship.)

THE FIELD TRIP

Orient Beach State Park, at the northeastern tip of Long Island, is a sandy strip roughly a quarter of a mile wide and three miles long. It faces Gardiner's Bay to the south and is backed by Long Beach Bay. Approximately sixty members of the NYSC made the long trip out there for our annual field trip May 21st, and as the bus stopped at its destination the eager prospectors popped out the door like peas out of a sheller. There was a lot of ground to cover, and after a quick luncheon we all started to comb the shores and shallows.

The back bay was so calm we could see a horseshoe crab glide along the bottom twenty feet away. Here were found live:

Busycon carica	on sandy bottom	Littorina saxatilis	on stones
Eupleura caudata		" littorea	
Urosalpinx cinerea		Crepidula fornicata	
Mya arenaria		" convexa	
Nassarius obsoletus		Crepidula plana	in old shells
Brachidontes plicatula	in mud	Haminoea solitaria	in a back drift
Bittium alternatum	on seaweed	Melampus bidentatus	on beach grasses

On the stony edge of Gardiner's Bay (where many of us got wet unintentionally, the short boots being too short and the dungarees too long) the most exciting find was live Chaetopleura apiculata Say by Stanley Sokoloff. They were in water deeper than most of us were prepared to wade, one attached to a stone, the other on an anomia simplex.

The live specimens found in Gardiner's Bay were:

Chaetopleura apiculata	on stones	Laevicardium mortoni	in sand
Acmaea testitudinalis		Lacuna vincta	on sea weed
Crassostrea virginica		Crepidula fornicata	on stones
Anomia simplex		" convexa	
Mytilus edulis		Crepidula plana	in old shells
Littorina littorea			

Both Gardiner's Bay and the back bay yielded beach specimens of Aequipecten irradians Lam. in an array of colors, Venus mercenaria, Spisula solidissima and fragments of Lunatia heros. The beach drift along Gardiner's Bay was made up of thousands of shells of the Crepidulas and Anomia - with a few Busycon canaliculatum and Lunatia triseriata. The beach specimens from the back bay area included Petricola pholadiformis, Tagelus plebeius, Littorina obtusata, Mulinia lateralis, Lyonsia hyalina, Nucula proxima and Nassarius trivittatus.

The bus started for home shortly after 4:00 P. M. It had been a full day, and the enthusiasm generated promises to carry on into summer outings.

D. RAEIHLE

"HOW TO COLLECT SHELLS"

The 1960 edition of "HOW TO COLLECT SHELLS" has been completely revised, enlarged one fourth, and is up-to-date in every way. This A. M. U. booklet has been prepared by experts in all branches of malacology. Send $2.00 for your copy to:

American Malacological Union
Route 2, Box 318
Marinette, Wisconsin

SUMMER FIELD TRIPS

At the June meeting the suggestion was made that we get together during the summer months for informal field trips. A committee colunteered to act as liaison officers, and already plans are in the making. Probable trips include Sunken Meadow, Jones Inlet, and a hunt for land snails. Also, the curator of the Vanderbilt Marine Museum at Centerport, N. Y. has offered to take us on a guided tour of the collection without charge (educational service).

All those who wish to be notified of these projected field trips should send a card to that effect, with your name and address, to one of the committee:

Mr. Harold Feinberg
2334 Tiebout Ave.
Bronx 58, N. Y.

Mr. Stanley Sokoloff
18 Alice Ave.
Merrick, N. Y.

Mr. Albert Taxson
25 Knolls Crescent
Bronx 63, N. Y.

You, in turn, will receive a card listing dates and places.

As these trips will not be backed financially by the Club, transportation must be on an individual basis--train, public bus or private automobile. The committee is particularly anxious for the cooperation of those of us who have cars and can take a passenger or passengers. Please note on your card the space you have available for those who otherwise would not be able to join in the fun.

RETINELLA BURRINGTONI IN OUR AREA

I spent May 2nd, 3rd, 4th and 5th of this year at a conference at Alpine Scout Camp in Bergen County, New Jersey. On each of these days I devoted one half hour to shell collecting. The total of two hours produced the following results: 105 Zonitoides arboreus (Say), 1 Helicodiscus parallelus (Say), 7 Stenotrema hirsutum (Say), 3 immature shells of either Triodopsis or Mesodon (probably Mesodon thyroidus (Say)), and 1 Retinella burringtoni (Pilsbry).

This is the first time that I have collected Retinella burringtoni. I carefully checked it against "Pilsbry" and am sure of the identification. This shell is 1.7 mm. in height and has a diameter of 3.6 mm. The color is a warm buff and under magnification the surface has fine, distinct weakly beaded spiral striae.

On several other visits to the camp I collected the following other shells: Triodopsis tridentata Say, Mesodon thyroidus (Say), and Retinella indentata (Say).

. . . . . . HAROLD FEINBERG

Editor's Note: This is another record for our indefatigable member. The shell, which was first described in 1928, has never been reported from our area before. This makes it the second important addition to our fauna that Mr. Feinberg has made, the first one being in 1954 when he found the colony of Vallonia costata in Van Cortlandt Park.

mkj

THE RISE AND FALL OF THE OYSTER INDUSTRY IN NEW JERSEY

We have all kept pretty well up to date on the glamorous shells and have lamented the destruction of shelling areas in far parts, but at our meeting March 6th Dr. Walter H. Jacobs turned our eyes to our own back yard:

One hundred and fifty years ago the Shrewsbury and Raritan areas in northeastern New Jersey supplied all the oysters for the eastern seaboard. We have visited Ward's Point -- can you picture those waters off the Amboys supporting innumerable succulent oysters? By the year 1900 pollution had killed the industry here, forcing a greater development of the Delaware Bay area. There the oysters thrived and Maurice River Cove oysters became famous.

The 1920's were the golden years for this Delaware Bay industry, producing approximately one seventh of the total oyster crop of the United States, shipping in 1928 alone more than 61 thousand tons of oysters in the shell and over $5,000,000 worth of shucked oysters! Two towns, Bivalve and Shell Pile, New Jersey, grew with the industry which employed 3500 people and sent out 3 to 4 freight carloads of oysters daily. The shells of the oysters were also valuable: First, oyster spate prefers to settle on fresh shells, so quantities were dumped into the bay around the oyster grounds. Second, shells were pulverized to mix with poultry feed. Third, great quantities were used in roadmaking. (The shells were piled high in the center strip of the road and beveled off toward the shoulder. Traffic gradually wore the shells to small fragments. Well tended oyster shell roads were good roads in their day, solid and well drained, but the driver who passed over them before they were packed by the steam roller remembers the experience.

With color slides Dr. Jacobs showed us pictures of the oyster boats tied up three and four deep along the many docks which bordered the capacious sheds and the large buildings for processing, these as they were in 1925. Then he showed us the slides he had taken on his recent trip: Rotting gear on tied-up oyster boats that have not been out for 2 or 3 years, docks caving in, rusty equipment in the sheds and in the yards, the long buildings boarded up, the towns sleeping. The one hopeful picture: The New Jersey Shell Fisheries and Rutgers Oyster Research laboratories are busy there, having stations right on location.

Why this situation? A letter to Dr. Jacobs from biologist Thurlow C. Nelson of the New Jersey Department of Conservation and Economic Development, Division of Shell Fisheries, and dated Feb. 12, 1960, is most informative. ". . Beginning in 1929 there occurred a series of very dry years. salinities rose in Delaware Bay to such an extent that the oyster's chief enemy, the snail borer or oyster drill, Urosalpinx, invaded all the lower natural seed beds including also the central backbone of our seed production - the Bennies Bed. Destruction of seed oysters was very heavy with result that all beds south of Bennies were largely destroyed by 1940.

The hurricane of August 23, 1933, followed by severe northeast gales in the winter of 1934, did great damage on the planted grounds by stirring up the bottom and burying many oysters. Production fell from 14 million lbs. of oyster meats to one-half that figure. The latter figure of 7 million lbs. of meats continued with some variations through 1956. In May, 1957,

a parasitic disease caused by the sporozoan Haplosporidium" (a class of protozoa of parasitic forms, which live in the body cells of healthy animals and in aquatic annelids and mollusks, explained Dr. Jacobs) "suddenly struck the planted grounds causing destruction as high as 70%. Production figure for 1957 dropped to 2,720,000 lbs of oyster meat. High mortality continued in 1958 spreading to the natural seed beds, and production for 1958 dropped to only 824,000 lbs. of oyster meat.

The disease organism is apparently the same as that which decimated the oyster industry of Prince Edward Island, Canada, in 1915-16 causing mortality of 95%. In the succeeding 20 years the 5% survivors, however, repopulated the area. When a similar epidemic struck the beds of Nova Scotia and New Brunswick three years ago the Dominion of Canada became the chief buyer of Prince Edward Island stock, planting these immune oysters on the depleted beds of Nova Scotia and New Brunswick in hope that the industry there could be brought back in less than 20 years.

Our own mortalities have dropped sharply, hence we are hoping to follow the example of Canada and plant our resistant stock on spawning sanctuaries." (Dr. Jacobs reported that 42,000 barrels of spate were planted in 1959, with no harvest.)

In concluding his presentation, Dr. Jacobs gave us these questions to ponder: Does not pollution support the disease organism? Can the New Jersey Conservation Department combat the growing pollution from the greatly expanded industrialization of the Delaware River Valley, or will the conditions in Delaware Bay become as those of the Raritan and Shrewsbury areas?

dr

VISIT TO A SHELL SHOW

We visited the First Annual Shell Show of the Palm Beach County Shell Club (Mrs. Ward Brown, Pres.) on March 3rd. Entrance fee was $.75 per person. The shell show was held and arranged in the large, wide, well lighted upper floor of the Lake Worth Casino. We were impressed with its elegance, interesting and educational surroundings as the shells were displayed all around in new modern large display glass top counter tables. There were such displays as: Most novel collection; Best of one family; Best of one genus; Best of one species; Best beginner's group; Best educational or commercial group. Many ribbon awards were pinned on the tables for: accuracy of facts, general attractiveness, educational value, originality of presentation. The Club members revealed great skill and artistic talent in assembling these shell displays.

Around the Palm Beach area many children are taught, and enjoy, skin-diving and so have the opportunity to seek and find a good variety of mollusks. The Club had a table in one corner of the room especially to interest children in shell exhibits of local mollusks. We saw many children carrying their shells around, comparing and trying to identify their shells, and others asking questions about their findings.

We must mention here the special showing in one section of the floor from a local Palm Beach florist who displayed exquisite craftmanship and beauty of design with his graceful sprays and bouquets all made of various shell flower arrangements.

. . . . . DR. & MRS. JULIUS WISOFF

A REPORT ON TWO SHELLING AREAS IN THE FLORIDA KEYS

by Mr. & Mrs. George Raeihle

There is always a place to shell in the Florida Keys: If the wind is from the south and brisk enough to make work on the ocean beaches uncomfortable, we visit the bays and lagoons on the Florida Bay side; if the Bay is too rough, we find a sheltered spot on the ocean side. If all the waters are calm we really get a workout, as the time differential in the tides of the ocean and bay permit us to work two low tide areas in the same day. Weather closed in? There are collectors and collections for fascinating hours. We had fine weather on our recent visit--water and air temperatures were both at 80°. However, we did not get out to the reef or to the outlying keys as the ocean did not flatten sufficiently for us to make the trip.

Of the many areas we covered, one of the most interesting and productive was at Crawl Key. Just 14 miles west of Greyhound Key (where we had our headquarters), a lagoon off Florida Bay is very accessible from the highway. We learned that it was formed by dredging for fill for the highway. The bank dropped off steeply from the very edge of the parking area, to unknown depth--we could not see bottom even with a face mask. To the east and west the lagoon is bordered by marly, rocky sand spits which are exposed at low water, and by shallows to the north where the water flows rather strongly. On the western side we worked the rocks, lifting those that were not fastened to the scenery in order to inspect the undersides, and then replaced each rock as we found it, as most of the under-surfaces had eggs and colonies of juveniles. Out at the end of the spit the path narrowed to only about three feet. We could stand there and, using a water glass, see schools of mangrove snappers in the deep water around the point. They were not interested in any lure offered. Some day we may try feeding them shrimp, if we can manage the burden of bait and tackle while shelling.

On the eastern side of the lagoon there was considerable soft silt over and around the coral rock. The path here was alternately solid, sticky, or slippery, and the fauna mostly sand dwellers.

Though we did no dredging or diving, we found approximately fifty different varieties of living marine shells in this one lagoon area of Crawl Key, most of them rock dwellers of small or moderate size. We collected two specimens of Aspella obeliscus A. Adams and three specimens of Murex cellulosus Conrad. There were some beautiful creamy white Bailya intricata, many Arca adamsi, several shining Hyalina avena; numerous Astraea americana, Arca barbatia, Arca umbonata, Cantharus tinctus; hundreds of Isognomon alata ranging in color from purple to an occasional white; scores of Acanthopleura granulata and some Ischnochiton floridanus. Among the other live species were three Antigona listeri; Fasciolaria tulipa in both the mahogany color and with the black and white markings, which two types seem indigenous to the Keys; Pseudocyrena floridana upon which the Melongena were feeding; Chione cancellata and Glycymeris pectinata. Battalaria, of course. Tegula fasciata, Modulus modulus, Columbella mercatoria and juveniles of the Astraeas longispina and americana were found on eel grass. A Natica canrena found in a tide pool was photographed with the animal extended. It was interesting to see that the color markings on the white animal almost matched those of the shell.

The water was wonderful for both swimming and sight-seeing. Drifting on a small raft and using the face mask, we were in another world -- of hanging

gardens with anemone flowers, occasionally a curtain of fish between us and the foliage. Frequently small colorful fish would approach in a discreet semicircle, curious, but not bold enough to inspect our outstretched fingers. Saw some bivalves in the side of the cliff--they would close at a touch or a shadow. They were too deep to be accessible, however we did chisel out a 1" Rupellaria typica from just above the low water level.

We had noticed another likely spot at Grassy Key, also on the Florida Bay side, just 10 miles west of Greyhound Key. By the time we realized that it was not private property (it was obviously man-made, and usually a car was parked there), not many days were left of our vacation. This pool had also been formed years ago by dredging for fill for the highway, and was entirely enclosed by a road-width levee of broken coral. Here, too, the underwater vegetation was lush--but how those big parrot fish got in we can't figure, unless as fingerlings they were washed over the levee on a high tide. We could work the inside edge of this pool, though the footing was precarious as the sides sloped rather sharply and the loose coral rolled underfoot. It was here we found the living Lima tenera Sowerby, that spectacular red animal with the fringes of white tentacles They are speedy, but we caught a few, then observed them in action in a container of sea water. One of them still had its golden byssus, and while we were watching the Lima gave a convulsive movement and, actually, threw its byssus!

The undersides of the rocks here were also productive of the usual small rock dwellers, but, among the limpets, one was different: The shell of the Lucapina sowerbii in a collection can give no indication of the interesting living specimen: The animal is too big for its house. Its mantle extends up and covers the rim of the shell, from there it flares out below, like a full skirt, around the foot, so that the animal walks along holding its shell very well aloft.

In the shallows near the pool we stepped around sponges and coral. At a depth of about 2' to 2½' we began to bring up small but interesting live specimens: Conus jaspideus, Bulla occidentalis, Cymatosyrinx moseri, Prunum guttatum, Marginella apicina, Natica canrena, Nassa and others. A group of little fish were interested in the procedure--they clustered close around, quite unafraid, to catch the food stirred up by the rake. Over in the grass were found some nice 10" specimens of Strombus gigas, but, as the lip edges were immature, they were photographed and returned to the water. While setting up the picture we noticed a wary audience--a line of crawfish peering out from under the rocks reminded us for all the world of a row of children peeking through a fence.

The collecting in this area had just begun to get good and interesting when the day was over, then the weather changed, and we could not work there again before it was time to head north. Vacations are SO short!

APPLEBY BEACH, 16 acres of beach and bluffs and meadow land, containing shell heaps and artifacts of the L. I. Indian, invaluable site for the study of L. I. geology and minerology, is threatened by "progress". At our June meeting it was voted that the members individually protest the action which would deprive society of this irreplaceable natural history site. We are enclosing a supplementary sheet in the form of a petition to retain this area as a preserve and field laboratory. We urge you to sign it and mail it to Mr. Patterson NOW.

NEW YORK SHELL CLUB NOTES No. 64 Sept. 1960

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NEXT MEETING: SUNDAY, SEPTEMBER 18th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY.

These NOTES are distributed by mail, free of charge, to all regular members of the NEW YORK SHELL CLUB. (Dues: $2 per year, $1 for each of other members of the same family) Corresponding members (dues $1 per year), also receive the NOTES by mail. The NOTES are published ten times a year. Address material for publication to M. K. Jacobson, 455 Beach 139th St., Rockaway Beach 94, N. Y. Material may also be sent to Anthony D'Attilio, 44 Lynwood Drive, Valley Stream, N. Y., or to Mrs. George Raeihle, 7924 Ankener Ave., Elmhurst 73, N. Y. For other matters address Mrs. Josephine Wichern at 62-08 99th St., Forest Hills 74, N. Y.

We hope everyone has had a nice summer, and we'll be happy to see you at our first meeting of the fall season. Scheduled for the September 18th meeting are member reports and slides on the summer field trips and the A. M. U. meeting in Montreal. Fred Tobleman has a paper on "The Bolten Fallacy" and George Jacobs has an interesting cone for the "Shell-of-the Month". Later this fall Dr. Henry E. Coomans, now with the American Museum of Natural History, will be a guest speaker; we'll hear about Karl Jacobson's trip to Germany; etc., etc.. Promises to be an interesting year.

AN EVENT OF INTEREST:

We have the announcement: "AN AUCTION OF FINE AND RARE SHELLS", Nick Katsaras, Director; Anthony D'Attilio, Auctioneer; Josephine Wichern, Public Relations. The accompanying sample list of shells to be offered includes THE Megalatractus proboscidiferus that Nick had for his Shell-of-the-Month last February (a 22½" beauty), along with many collectors' items such as a VOLUTA BEDNALLI, a MUREX PALMAROSEA, etc., etc.. The auction will be held at the National Arts Club, 15 Gramercy Sq. (at E. 20th St.), N.Y.C., on Sunday, September 25th, 1960, from 1:00 to 5:00 P. M.

NEW PUBLICATION:

"CANADIAN ATLANTIC SEA SHELLS" by E. L. Bousfield, available from the National Museum of Canada, Dept. of Northern Affairs and National Resources, Ottawa, Ontario, Canada. Price $1.00 Canadian. pages plus index and glossary. 13 plates containing 133 excellent photographic illustrations in black and white, 2 pages of line drawings. 0% of these mollusks range through our area.

FIELD NOTES ON CONUS NEMOCANUS BRUG. AND CONUS VEXILLUM GMELIN

(Editor's note: The comfortable porch of a suburban home on Long Island is far removed from the glamorous sounding, though humid and hot, tropical coast of Mozambique. Observations on the characteristics of the shell fauna of distant tropical beaches have been blithely tackled by many armchair collectors but for once it would seem appropriate to have a field collector give his views of the specific characteristics involving some Conus which have afforded, at least to this writer, questions regarding their possible relationship. Without further comment, we present the experienced observations of K. J. Grosch, whose field collecting at Mozambique is tops. . . . Anthony D'Attilio.)

The live collected Conus nemocanus is of greenish (seldom yellowish) colour, softly shaded with olive green, white and light bluish grey. The dark and light shades are usually axially arranged, like Conus laevigatus; (Webb's Handbook, Pl. 16, No. 7). A band of irregular white blotches is suspicious in dark-shaded specimens, but grows indistinct where the light, bluish grey shades predominate. In the latter case the circular design becomes more apparent. This design, typical for C. nemocanus, consists of fine lines of brownish dots and traces, either single or forming narrow bands.

Conus vexillum is of the same light build as nemocanus. Ground colour is yellowish or brownish, with a band of irregular whitish blotches resembling that of nemocanus; it is, however, always well defined. Fine, brown axial-threads cover the whole shell. In younger and young specimens the whitish band is less well defined and, besides the axial-threads, coarser, greyish, irregular axial lines are conspicuous.

At first sight, Conus nemocanus appears somewhat more slender than Conus vexillum, but in average their length-width index is the same. C. vexillum always shaded with darker brown around base, C. nemocanus usually lighter, yellowish shade at base. C. vexillum shows striated or spirally grooved spire at any age, C. nemocanus only at immature stage. C. vexillum: aperture (inside outer lip) perfectly white. C. nemocanus: aperture bluish or purplish blue. The greenish specimens have, of course, the darker aperture, but even light yellow specimens still show bluish tinge.

No intergrades between vexillum and nemocanus observed. Those suspected were always immature forms of vexillum, the similarity enhanced through the still undefined white-blotched band. One form outstanding: A 4" long, all yellow, all covered with fine, somewhat wavy, threadlines which, now and then very closely spaced, form numerous narrow bands of light brown colour. One very narrow, well defined, light band (light yellow or whitish) at middle; spire orange-brown and whitish blotches, nemocanus-style. Base slightly dusky. No trace of axial-lines or -threads. Plain white aperture. This form still should rate as nemocanus, though it's a far cry from the textbook type.

Conus sumatrensis does not occur here to my knowledge. It is NOT close to nemocanus, since it shows features which don't go with nemocanus. A few which I've seen labeled "C. sumatrensis" did not show the fine threadlines, dot- or dash-lines, which are typical for nemocanus. Those specimens, however, which I've seen labeled "laevigatus" were definitely nemocanus of the whitish-grey and greenish or yellow and brown axially shaded type, perfect with the circular threadlines, etc.

. . . K. J. GROSCH, August 4, 60

SHELL AUCTIONS
by
Nick Katsaras.

Shell auctions are something new in this country, but more than 200 such auctions took place in Europe in the last 200 years, mostly in England, Holland, Denmark, France and Germany. This talk concerns two auctions that took place in England: the Dennison auction of 1865 and the Norris auction of 1873. (My English correspondent has temptingly suggested that I could have the original 1865 and 1873 auction catalogues in exchange for a Voluta bednalli !)

John Dennison is described by Reeve in his diary as a country amateur of humble origin, but having inherited a large fortune, spent it most lavishly in the purchase of costly shells. His cabinets were of rosewood, elaborately carved, and the drawers were lined with velvet. The sale of his collection was attended by many famous collectors such as Cuming, Reeve, Angas, Lombe Taylor, and H. and A. Adams.

For a number of years in the 1860's and 1870's there were two rival collectors in England, Norris and Dennison. The dispute was, not only between these two gentlemen but between the best conchologists of their day, as to which had the best shells. Dennison had a very fine generic series and the whole of his leisure time was occupied in cleaning and improving his shells. Norris paid more attention to certain large family groups, such as Conus and Mitra. In these he had more and better species than Dennison.

Especially in Mitra, the Norris collection became very famous. A large number of these Mitra have been figured in Reeve's "Conchologia Iconica". These specimens were among the finest known at that time in England and on the continent. The opinion is held that for either beauty, quality, or variety, no private collection of Mitra will compare with it even at the present time. It is to be regretted that nearly all the collections formed during the lives of these two celebrated men were sold and dispersed. Prophetically, F. P. Marrat stated in the introduction to the Norris sale catalogue in 1873: "This may very well be among the last of the great collections that will be offered for public competition."

There were two more famous auctions that took place during the 20th century, the Hugh Nevill collection sold in 1904, and Carl Bulow's collecion in 1913. Part of the collections auctioned after 1880 came to American collectors such as Webb, Weeks, Higgins and A. F. Gray. A large part of Higgins collection, especially the Oliva, can be seen to-day at Mr. Corbett's collection at Fort Myers, Florida. He also has the best Cypraea, Murex and Pecten collections in the U. S. A.

At the auction of the J. Dennison, Esq., collection, Covent Garden, London, April 24-29, 1865: Reeve purchased a splendid specimen of Conus gloriamaris for $120; a Conus cedo-nulli, variety C. of Reeve, brought $62.85; Bryce Wright, a dealer, paid $120 for a fine Cypraea guttata and $114.30 for the rare Cypraea princeps; Cypraea leucostoma brought $5.15 and $4.60; and a Conus splendidulus which Reeve mentions in his "Iconica" brought $10.

At the auctions of the T. Norris Esq., collection, Covent Garden June 5-6 and July 29-30, 1873: A fine specimen of Conus cervus brought $46.45; Bryce Wright again bought Cypraea guttata, paying $90 for a fine specimen; a Conus omaicus brought $15.70; and a beautiful Conus rhododendron (now in the collection of Nick's friend) was bought by Roger Gaskell for $13.55.

CONCHOLOGICAL INTERVIEWS - Part 1

WILLIAM K. EMERSON at the AMERICAN MUSEUM OF NATURAL HISTORY

By Henry S. Gordon

This is the first of a series of interviews intended to bring us up to date on the world of mollusks. We will attempt to present the timeliest news on the great collections, the museum picture, the work being done by oceanographic institutions.

We could begin no closer to home base than where we do now, for the mollusk collection of the American Museum of Natural History is housed just two floors above us. On a Friday morning visit to the fifth floor, we called on Dr. William K. Emerson, an Assistant Curator of Invertebrates at the museum and a well-known malacologist. The coffee pot was bubbling as the interview opened in a relaxed and congenial manner:

The museum's seashells have had an unusual guardianship. In the last century the collection was initially assigned to L. C. Gratacap, curator of mineralogy, in a wedding of rocks and mollusks that must have given a pebble's share of importance to the latter. The shells attempted to escape this ignominy but were dealt over in 1891 to the Geology Department. In 1901 a seemingly more sensible arrangement saw the mollusks banded into an invertebrate zoology grouping, but they had to share this with a spate of diverse creatures, including the insects (which comprise by far the largest group of all the phyla).

In 1909, when the insects were finally spun off into a separate entomology section, the shells began to assume an identity of their own. But, after many years of comparative calm, they were again accorded a less-important status when, due to a serious personnel shortage at the museum near the end of World War II, they were grouped with fishes in a Department of Fishes and Aquatic Biology, - which arrangement has remained to the present day.

This, however, is soon to be changed. As of July 1st the shells will become a part of the Department of Living Invertebrates. Dr. Emerson will continue as the shells' overseer while assuming chairmanship of the department. Holder of a Ph. D. in biological paleontology from the University of California (Berkeley), he specializes in taxonomy and zoogeography; has published some 40 papers, mostly on mollusks themselves, some on ecology, and is working on the Drupa genus for Part 3 of "Indo-Pacific Mollusca" in cooperation with the Academy of Natural Sciences in Philadelphia. Currently at the printer's is the "Handbook of Marine, Fresh Water and Land Shells of the Greater New York Area", co-authored by Emerson with our own M. K. Jacobson as senior author and Anthony D'Attilio as illustrator.

Also serving in the reorganization of the department will be present staff members Dr. Dorothy E. Bliss, ranked as an Assistant Curator of Invertebrates, with a specialty in physiology of crustacea, amd Mr. Frederic V. Weir, with whom some of us have consulted on shell identifications, and who has been affiliated with the museum for over twenty-five years. An addition, once the new setup is in effect, will be malacologist Dr. H. E. Coomans, from Holland, working under a research grant.

The museum's first shell acquisition of any significance was the famous Jay collection of approximately 50,000 specimens. To this were later added the

collections of Haines, Constable and Stuart. The Binney and Bland series of duplicates was also acquired, and a huge representation of the genus Partula, a South Pacific land snail, was donated by Dr. Henry E. Crampton who was at the museum from 1909 to 1921 and who turned out a monumental work on the zoogeography of the above genus.

Today, the museum receives most of its specimens via donations, does comparatively little buying, goes into the market place only for what it deems necessary to complete studies being currently undertaken. This is in accordance with a policy of maintaining a truly scientific collecion, dispensing with frills. In this regard, Emerson holds the museum as the stronghold of taxonomy and zoogeography, claims the colleges are losing this art, devoting time principally to non-taxonomic research projects.

The museum's over-all mollusk collection is comprised of about 80,000 catalogue lots (a "lot" being one or more specimens of the same species from the same locality), and Emerson estimates the total number of specimens at between 800,000 and 1,000,000. These are housed in four-foot-high steel cabinets. Each of the 235 cabinets can accommodate twenty drawers, depending, of course, on the size of the specimens. Inside each drawer, the bulk of the shells (in more or less standard procedure) rest in untopped paper boxes, while very small ones are contained either in vials or in glass top or plastic boxes.

The department is active in doing its own spadework, making field studies, publishing findings. Emerson engages in lone-wolf research in the summer, usually in Southern California and Mexico. In 1957 he led a three-month expedition to Western Mexico aboard the schooner Puritan, which added 5,000 lots of molluscan material to the museum's coffers. One chief aim of the voyage: to compare past and present distributions of the littoral marine invertebrate faunas, particularly mollusks, stony corals and bryozoans. Ten reports on the results of this expedition have been published in the American Museum's "Novitates", one of the two scientific publications it periodically issues. (The other is the "Bulletin", which encompasses more extensive research, as for example Dodge's gigantic work on the mollusks of Linnaeus.)

We had some questions prepared and lost no time getting down to a truly controversial one:

Question: Dr. Emerson, in molluscan taxonomy, are you a lumper or a splitter?

Answer: As the old adage goes, "You *split* in *your* field, but *lump* in the other fellow's." Seriously, though, I would split on generic and subgeneric levels more than on specific.

Q. All this splitting is wreaking havoc on us amateurs. For example, it is so comfortable to call a specimen *Conus* whatever it is. Why did someone have to come along and give us *Dendroconus*, *Lithoconus*, *Rhizoconus*, and a host of other prefixes?

A. I think a specimen should be identified as, for example, *Conus* (*Lithoconus*) whatever it is. Here, you see, while retaining the original description of *Conus*, we are using subgenera to recognize biological affinities.

Q. What is the value of the great early illustrative works on mollusks

(i. e., Reeves, Chemnitz, Kiener, et al.) to the professional malacologist?

A. We use their works, of course, but we don't rely too greatly on them. As you may know, they are quite often inaccurate and, even when not inaccurate, descriptions that were adequate for work in the science in those days are often outdated for contemporary usage. What we try to do whenever possible is to obtain the holotype and/or other primary type specimens and reach our conclusions from these, as well as from original descriptions.

Q. We assume the museum's library contains a fine collection of the early works?

A. Yes, both American and Foreign.

Q. To change the subject, what can you report regarding radioactivity and its effect on shellfish?

A. This is an area outside our present work or interest. Your best answer would come from Washington.
(With this in mind, and to satisfy other areas of interest, a trip to the nation's capital is on our interview agenda.)

Q. Are there any virgin areas for collecting left in the world?

A. While coastal areas have been largely well-collected, the benthos of the open sea remains filled with so-far-undiscovered species. There are vast stretches of the Arctic and Antarctic still untapped. Also, the coasts of South America, exclusive of Argentina, would probably yield many new species, and, finally, a lot of work must be done in turning up the planktonic stages of mollusks.

Q. What can you tell us about the museum's well-known public exhibit of shells?

A. The exhibit as you see it today was set up about 1946 by Dr. John Armstrong, then in the department. Since that time, any changes have consisted mainly of label revisions. Over the next ten years, however, the entire Hall of Marine Life will be redone and the mollusks will probably be accorded the position now taken up by the Crustacea, at the entranceway to the display.

Q. One more question - Does the shell shop downstairs in this building have any relationship with this department?

A. None. It is completely independent.

The interview concluded, we were turned over to Mr. Weir who was asked to grant a request. He took us to a steel cabinet, unlocked it, quickly located a small box, opened it, removed the single shell within and placed it in our outstretched hand. And what do you think it was? You're right! A Conus gloriamaris ! ! !

NYSC June 5th, 1960

NEW YORK SHELL CLUB NOTES No. 65 Oct. 1960

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NEXT MEETING: SUNDAY, OCTOBER 30th, 1960, at 2:00 P. M.
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SPECIAL PROGRAM OCTOBER 30th

Dr. Henry E. Coomans of Amsterdam, Netherlands, is now associated with the American Museum of Natural History, and we welcome him as a member of the New York Shell Club. He has graciously accepted an invitation to speak at our next meeting, and will give a presentation, illustrated with color slides, on "Shell Collecting in the Netherlands Antilles". Dr. Coomans knows his subject -- he spent three years in the Netherlands Antilles working under the sponsorship of the Natural Science Study Group for Surinam and the Netherlands Antilles. In addition, he has just told us that he will have with him for exhibition examples of the newly discovered bivalve gastropod, Thamanovalva limax!

NEW PUBLICATION:

"HELPFUL HINTS FOR SHELL HUNTERS", compiled and sponsored by the Hawaiian Malacological Society. We quote: "For newcomer" and "oldcomer" collectors alike -- hints and suggestions from experienced local collectors, applicable anywhere shells are to be found or hunted." To order, send $2.00 plus postage of 9¢ U. S. or 16¢ foreign to:

Mrs. Thomas Shields, 2760 Rooke Ave., Honolulu 17, Hawaii.

The Hawaiian Shell News of September tells us that the first printing of "Helpful Hints for Shell Collectors" was completely sold out, that a second and increased printing had been ordered and was expected to be available in October. So if you order and there is a delay, just be patient -- they'll probably have to go into a third printing before all the interested shellers get their copies.

THE 26th ANNUAL A. M. U. MEETING

McGill University Museums, Montreal, Canada, was host to the approximately 100 members of the American Malacological Union who attended the meeting August 9 - 12. Delegates were present from California, Venezuela and Florida as well as from the eastern seaboard. Fourteen members of the NYSC made the trip. Mrs. Alice J. Turnham, Director McGill University Museums, was incomparable as hostess to each individual as well as to the delegation as a whole and, together with Dr. Vincent Condé, Curator of Invertebrates, Col. P. D. Baird and the other members of the Museums staff made a most efficient and cordial team to guide and entertain their 100 guests.

The mornings and afternoons were given over to sessions in the auditorium of the Redpath Museum, with A. M. U. President, Dr. Katherine V. W. Palmer, presiding. At the first session we were welcomed to Montreal and told of the life and work of Philip Pearsall Carpenter (1819-1877), the first curator of mollusks of the Smithsonian Institution, a founder of the museum at Albany, N. Y., and the first malacologist to specialize in the western North American shells fauna. A large portion of the 500,000 shells he collected (of which 12,000 specimens were from the area which ranges from Quebec to South Carolina) is housed in the Redpath Museum, where Dr. Condé has, so far, isolated about 150 identified holotypes. Tuesday afternoon Mrs. Turnham and Dr. Condé formally opened the special exhibition of Carpenter's shells that they had set up in honor of the A. M. U. The displays were excellently arranged and were of historic and scientific interest.

At the business meeting there were reports by Shell Clubs from all over the country. Catherine Ahders' enthusiastic report on our last year's activities and on the "Notes" resulted in six new memberships for the N. Y. S. C. Dr. William K. Emerson was elected Vice President for the coming year, when Dr. Thomas E. Pulley will be President. Anthony D'Attilio was appointed a Councillor-at-Large.

The presentations at the sessions covered the range from popular to deeply scientific, from tips to the amateur to problems of the researcher, and were so interesting and informative that we'd like to report each one. As it is, we can give you only a sample:

Our member Edward Karlin, who has made the full swing from amateur to professional, talked on land slugs. A point of particular interest was that the physiological behaviour of the snail is an important adjunct in species identification. Virginia Orr gave a talk on the South African Ischnochiton, with color slides taken on location. Dr. Henry E. Coomans presented a very interesting illustrated talk on "Shelling in the Netherlands Antilles" which he will repeat for us at the October meeting. Arthur Merrill's illustrated talk on scientific shell collecting from navigation buoys (800 species have been found on buoys so far) gave us further understanding of work being done in the field. Dr. Alan Solem's "Desert, Jungle, and Laboratory" was illustrated with color slides.

Dr. William J. Clench and Dr. Joseph P. E. Morrison made a cooperative presentation: Dr. Clench on "The Bivalve Gastropod and the Opisthobranchs" and Dr. Morrison with "Notes on the Bivalved Univalves", thus giving us a very comprehensive report. This is a fascinating story -- of a snail that starts life as a gastropod and develops into a bivalve. The tiny mollusk

is born a true univalve with a spiral shell. However, at 10 days the operculum is discarded, the snail already having extended its lip growth toward the bivalve form, and by maturity has grown the two symmetrical valves which for years led scientists to believe it was a true bivalve. The animal retains its snail form with tentacles, eye spots and radula, yet it develops an adductor muscle and a gill as in clams. The outer vestige of its early life is the spiral nuclear apex on the left valve.

Our evenings were planned for relaxation: An informal evening with shells and color slides of the people and places of previous A. M. U. meetings, another evening we were guests of the University of Montreal, where Dr. Edouard Pagé was our host as we were shown color films of Australian Reef marine life. A cocktail party and banquet concluded the days of formal sessions. Some of the A. M. U. members overwhelmed us with their kindness in donating shells that they themselves had collected and cleaned. Especially generous was Mrs. Faye B. Howard of California who brought well over 1000 specimens of about 8 species, and all with data. And Lester E. Allen, who arrived with two suitcases fully packed with Pecten magellanicus Gmelin. Mary Wheeler supplied Lampsilis radiata Gmelin for each place at the banquet. E. P. Chace, the A. M. U. Pacific Division and others - all were most generous.

The last day of the meeting was spent on a field trip to Mont St. Hilaire, McGill University Preserve in the Monteregian Hills. First we spent some time in a gravel pit near the Preserve, where we collected 11,000 year old fossil marine mollusks that lived there when the sea covered the Champlain and St. Lawrence valleys. This part of the field trip was under the direction of John A. Elson of the Department of Geological Sciences, McGill University, and he thoughtfully provided us with six pages of data and maps of the area. We arrived at the shore of Lake Hertel in the wooded Preserve about noon, and were served a delicious and welcome box lunch. A few members foresighted enough to bring bathing suits enjoyed a swim. Col. Baird was our host here. The afternoon passed very quickly in this beautiful setting, and when we gathered again at the lakeshore we made tally: Lake Hertel and the trails around it had yielded a total of 27 species -- 9 fresh water mollusks, and 18 species of land mollusks including 4 species of slugs found by (who would you suppose?) Ed Karlin.

It was a very good meeting, and we were sorry we couldn't stay a little longer in hospitable Montreal.

. . . . . DOROTHY RAEIHLE

HELP WANTED:

Dr. Paul F. Basch, who grew up in New York but is now in the Biology Department at Kansas State Teachers College, Emporia, Kansas, is working on a monographic study of the North American fresh-water limpets, and can use specimens from any part of the country. Drop him a card and he will send you a small mailing tube containing all the materials and directions necessary for preserving and mailing the specimens, thus making it easy for you who collect in ponds and streams to assist in this study of ancylid snails. Your help will be greatly appreciated.

THAIS LAMELLOSA

Generally speaking, the Thais is not a sensational or outstandingly attractive family of shells, yet there is an amazingly wide range in their formation and coloration. This is particularly true of the species Thais lamellosa. In the Puget Sound and San Juan Islands areas in the northwestern part of the State of Washington, these members of the Muricidae family are so common that few collectors even bother to pick them up. However, after seeing a collection such as this, you will undoubtedly agree they are very colorful and quite attractive shells. However, in their natural state they are usually covered with a dark gray or greenish scum of organic matter. This can easily be removed with a chlorox bath and thus their true beauty is displayed.

We have shelled extensively along most of the coast lines of the United States, on several of the Caribbean Islands and on five of the Hawaiian Islands and found conditions different at all areas. In fact, it may be said you have to learn where, how and for what to look at each site. As at Orient Beach, New York, the first time we looked for shells at Rosario Beach, just north of Seattle, I found little. Together with perhaps a hundred limpets and half a dozen other species of gastropods there were a few of these Thais lamellosa. On subsequent trips to other beaches near Seattle and on the San Juan Islands it was most interesting to note the variation in form and hue of the shells found. In their natural state it is hard to determine whether they are plain or ruffled, white, brown, orange or banded, but collecting and then cleaning them is, to me, a rewarding experience.

The range of Thais lamellosa is from the Bering Straits to Santa Cruze, California. This genus appears to have its early development in the North Pacific area during the late Miocene, and undergone a considerable expansion and differentiation during the Pliocene and Pleistocene eras. Since that time there seems to have been considerable dissension and controversy among the malacologists as to their nomenclature, history, sex life, etc. Dr. Trevor Kincaid first became interested in the lamellosa in 1900 and is still studying them. He is regarded as a leading authority on this family, at least on the west coast, and especially at the University of Washington where he was Professor Emeritus in Zoology for many, many years.

According to Dr. Kincaid, the variations exhibited by these shells appear to be governed by several sets of genetic elements, acting independently of one another. The resultant of these factors is then modified by environmental conditions, mostly of a nutritive character, but with the possibility of some measure of selective action through the agency of predators. The height of the spire in proportion to the width of the shell is determined by heredity. Sculpture is also regarded as determined by genetic factors. The ridges may be entirely absent, presenting a completely smooth shell, or they may be raised in conspicuous lamellae, giving rise to the imbricate type of sculpture, with all possible intermediate gradations in ornamentation.

The size of the adult shell appears to be determined by the basic heredity of the population and the speed of growth in reaching maturity. This, in turn, is related to the abundance and availability of the food supply. Snails living in the intertidal zone are more or less intermittent in their

feeding operations, while those living on submerged reefs (where as a rule larger types of barnacles, which form the chief food of the lamellosa, are abundant) feed without interruption and hence grow more rapidly and mature to a greater size. It has been noted that colonies established upon the barnacle-encrusted piles of docks usually attain a greater size than populations inhabiting the adjacent shores, although the size of individuals in populations which live on different types of shore in the intertidal zone exhibit much variance.

The coloration of these shells seems to be somewhat influenced by their feeding habits. Those feeding primarily on barnacles exhibit different hues and bands from those feeding on mussels, but considerable experimentation along these lines must be conducted before any conclusions can be reached.

The oyster farmers of the Puget Sound area destroy every Thais possible as the popular belief is that they attack the oyster beds, but Dr. Kincaid states in his book "Local Races and Clines in the Marine Gastropod Thais Lamellosa" that he has found no indication of this. Whether or not these lamellosa are detrimental in the human scheme of life - in the way of reducing the supply of an edible delicacy - we as shell collectors can enjoy them as very attractive additions to our collections.

DORMA PAXSON COLEY.
NYSC - June 5, 1960

Editor's Note: It may seem strange for the New York Shell Club to devote so much space to a west coast species. However, there is little doubt that the great variations found in our local Thais lapillus (found on Eastern Long Island and northward) are caused by the same factors that Dr. Kincaid reports for Thais lamellosa. It should also be noted that Mrs. Coley exhibited a series of lamellosa at the time of her talk that was truly breath-taking in its beauty.

MKJ

NEWS IN THE NOTES:

We know from experience that few, if any, readers regularly scan the masthead. This dilatory habit causes them to miss the occasional bit of news contained therein, as those lines are not as static as you might suppose. We therefore call to your attention that this month there is a wedding announcement concealed in those lines on page 1 : With celebration of the Nuptial Mass at Corpus Christi Church on October [illegible]th, our Cathy became the bride of Mr. Charles Bernard Schmitt. Beautiful bride, lucky man, happy couple! All our very best wishes are with them.

DEALER:

Mr. Ludo Tysman, Box 19, Zamboanga City, Philippine Islands, is a dealer in shells, corals, turtle shells, sponges and Sulu curios. Several of our members have had very satisfactory dealings with Mr. Tysman, from whom many of the showy Indo-Pacific shells can be obtained at reasonable prices. He will send a price list on request.

ANTHONY D'ATTILIO

THE PERIOSTRACUM OF MOLLUSKS

By ANTHONY D'ATTILIO

With photography by George Raeihle

Called at times the epidermis, this outer layer of the molluscan shell affords much interest to those students who want to know a little more about shells. The periostracum is a chitinous membrane covering most shells. This chitinous matter secreted by the mollusks is found not only in the periostracum but forms also the horny material of the non calcareous operculums. It also forms the conchiolin, which is the matrix first deposited by the mantle of the animal and on which the shelly matter is then built up. In some of the Opisthobranchiata, for instance, little or no shell matter is ever deposited over the conchiolin. The periostracum no doubt serves as a protective skin to the mollusk while the animal is alive and in its natural domain. When dead, however, the periostracum dries and contracts and in time splits and flakes off from the shell. In the case of fresh water shells the periostracum is generally heavier and more resistant to drying out, although the condition under which it is kept in a collection probably accounts for the time it would remain intact upon the shell.

In a consideration of land shells it is apparent that the periostracum is thickened to a degree where it becomes for all purposes a permanent layer. It has been called a cuticle with reference to the Helicostylas, but, regardless of its thickness or permanency, it usually contains all of the coloring and design rather than the shell below. Not all land shells have this layer, of course. In one instance, the New Zealand Paryphantas, this chitinous layer is of great strength and thickness. Unfortunately, it does dry and contract and, overcoming the shelly matter, it eventually tears the entire shell apart, the shell often literally exploding under the tension.

The periostracum is never found on some genera - such as Cypraea, Oliva or Ancilla, as the animal's mantle envelopes the shell for the greater period of its growth. This is especially the case with the cowries.

The slides will demonstrate that the periostracum is often, in marine as well as land shells, an important element in the appeal of the shell to a collector. In the case of many bivalves most of the lustrousness and color, and at times the design, is located solely in this outer skin rather than in the shell. It is true that in other shells the periostracum is dull and conceals their beauty. Besides being colorful and shiny, or often dull and opaque, the periostracum can be hairy or spiny. The hairs can be evenly distributed or they may form symmetrically arranged tufts following the sculptured form of the shell below. On the other hand, as in the genus Trichotropis, the spiny processes of the periostracum find no counterpart in the shells underneath which are quite smooth.

Now a word with regard to keeping a shell collection where the purpose is to give it some scientific value. If the collection is large enough and the space warrants it, I would certainly urge all collectors to keep at least a portion of each lot showing the shell in its natural condition, in the same sense that one keeps the operculum and any other data. As for many of the bivalves, the removal of the periostracum would only result in leaving one with a dull white shell, and so at least in some instances the shell's appearance is definitely enhanced and the species only recognized as such by the periostracum.

Presented at the meeting
of the NYSC May 1, 1960

NEW YORK SHELL CLUB NOTES No. 66 Nov. 1960

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NEXT MEETING: SUNDAY, DECEMBER 4th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY.

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DECEMBER 4th MEETING, PROGRAM FEATURE:

Ed Cowles' hobbies of shells, pre-Columbian art and photography blend in his presentation of "SHELLS IN PRE-COLUMBIAN ART AND RELIGION".

"TAMANOVALVA LIMAX"

is the correct spelling for that bivalve gastropod that so fascinates us. Thank you, Dr. Coomans.

HOLD THOSE SUBSCRIPTIONS TO "HELPFUL HINTS FOR SHELL HUNTERS"!

The October issue of the Hawaiian Shell News tells us that "there are no more copies available. The material is being revised, corrected and prepared for permanent printing. When it is ready, you will be notified."

NOTICE

At the October 30th meeting it was voted that, beginning with January of 1961, the New York Shell Club meet on the 2nd Sunday of the month. This schedule will give us 10 regular meetings each term and eliminate the confusion which has existed in the past concerning meeting dates.

SHELLS AND SLUGS COLLECTED BY MEMBERS OF NEW YORK SHELL CLUB 1960 A.M.U. FIELD TRIP, LAKE HERTEL, MONT ST. HILAIRE, CANADA

Compiled by Harold Feinberg

LAND SNAILS:

1. Stenotrema fraternum cavum (Pilsbry & Vanatta)
2. Triodopsis albolabris (Say)
3. Triodopsis dentifera (Binney)
4. Haplotrema concavum (Say)
5. Oxychilus cellarius (Muller)
6. Paravitrea multidentata (W. G. Binney)
7. Euconulus chersinus polygyratus (Pilsbry)
8. Retinella electrina (Gould)
9. Zonitoides arboreus (Say)
10. Discus cronkhitei catskillensis (Pilsbry) - close to cronkhitei
11. Succinea ovalis (Say)
12. Cionella lubrica morseana (Doherty)
13. Helicodiscus parallelus (Say)

SLUGS:

14. Arion sp. ?
15. Deroceras sp. ?
16. Philomycus carolineanus flexuolaris Rafinesque
17. plus one more Deroceras or Arion

FRESH WATER SNAILS:

18. Helisoma anceps unicarinata (Halderman)
19. Gyraulus sp. ?
20. Campeloma decisum (Say)

BIVALVES:

21. Elliptio complanatus (Dillwyn)
22. Anodonta sp. ?
23. Sphaerium sp.?

(Ed. note: Mont St. Hilaire is a wooded preserve which was recently bequeathed to McGill University. It contains Lake Hertel at 566 elevation. We quote from the information furnished at the start of the field trip August 12th: "The area of this preserve has not been investigated for land and fresh water mollusks." Five species were mentioned as likely to be found. From the limited area visited around Lake Hertel, 27 species were counted at the end of the afternoon. If any of our NYSC members who were also on the trip have anything to add to the above compilation, get in touch with Harold Feinberg.)

EXHIBIT:

NYSC member Eddy Slater is preparing an exhibit of his shells for the High School in Garden City.

SAD STORY:

20% of our members were delinquent in dues as of October 30th. Treasurer Mathilde Weingartner, 17 Amelia Court, Staten Island 10, N. Y., will welcome remittances.

THE KATSARAS AUCTION

Nick Katsaras' auction on September 25th was very well attended. It started on the dot of 1:00 P. M., and was a success both socially and conchologically. There were rare shells, beautiful shells, odd shells, and some a combination of all three. Something for everyone. The largest specimen, the Megalatractus proboscidiferus, went for $22, which was just about a dollar an inch. The two fine specimens of Voluta bednalli were much admired but, as the auctioneer had instructions to start the bidding at $100, they still belong to Nick. All the Volutas were popular, including our own old favorite Scaphella jononia. There was spirited bidding for a Voluta punctata ($18) and the Mitra vittata ($20.50). A field collector in the Philippines wanted a pair of shoes in exchange for a box of assorted shells. Upon examination this proved to be THE bargain of the day, and Nick has a fine pair of shoes for the collector, so everybody is happy. Two Achatina from Central Africa were sold with the recipe "in case you find any live ones around". (These shells were empty.)

Knock-down prices ranged from $1.75 for a Mitra nucea and $2.00 for Malea ringens to $30 for a fine Tibia fusus (about 7") and $47 for a Cypraea hirasei. A "sleeper" was Conus "ochroleucus" from the Philippines. It went for $10, although it is apparently an undescribed species. There were bargains, and there was also some of the obviously emotional bidding for particular specimens to fill in a collection.

At the end of the afternoon Nick, tired, announced: "No more auctions!" Two weeks later, rested, he showed us a few shells he had gathered "for my next auction." We'll be looking forward to it.

SHELL OF THE MONTH

At our May meeting Dr. William Dodd presented as his "Shell of the Month" a beautiful $16\frac{1}{4}$" specimen of Atrina vexillum, the black pen shell. This largest living pen shell is not rare in the Indo-Pacific, and was formerly called Pinna nigra. The name change is due to a sub-division recently made in the family. Now for the story behind this particular specimen:

Last winter Dr. Dodd was on the first cruise ship ever to visit Bora Bora, an island northwest of Tahiti. The visitors were enthusiastically entertained by feasting and dancing, and booths were set up along the shore with displays of native handicraft and souvenirs. One booth had single valves of the Atrina vexillum for sale -- the natives of Bora Bora use these large single valves as dishes for their feasts, so you might say that this booth was selling souvenir plates. But single valves only -- what a teaser for a conchologist!

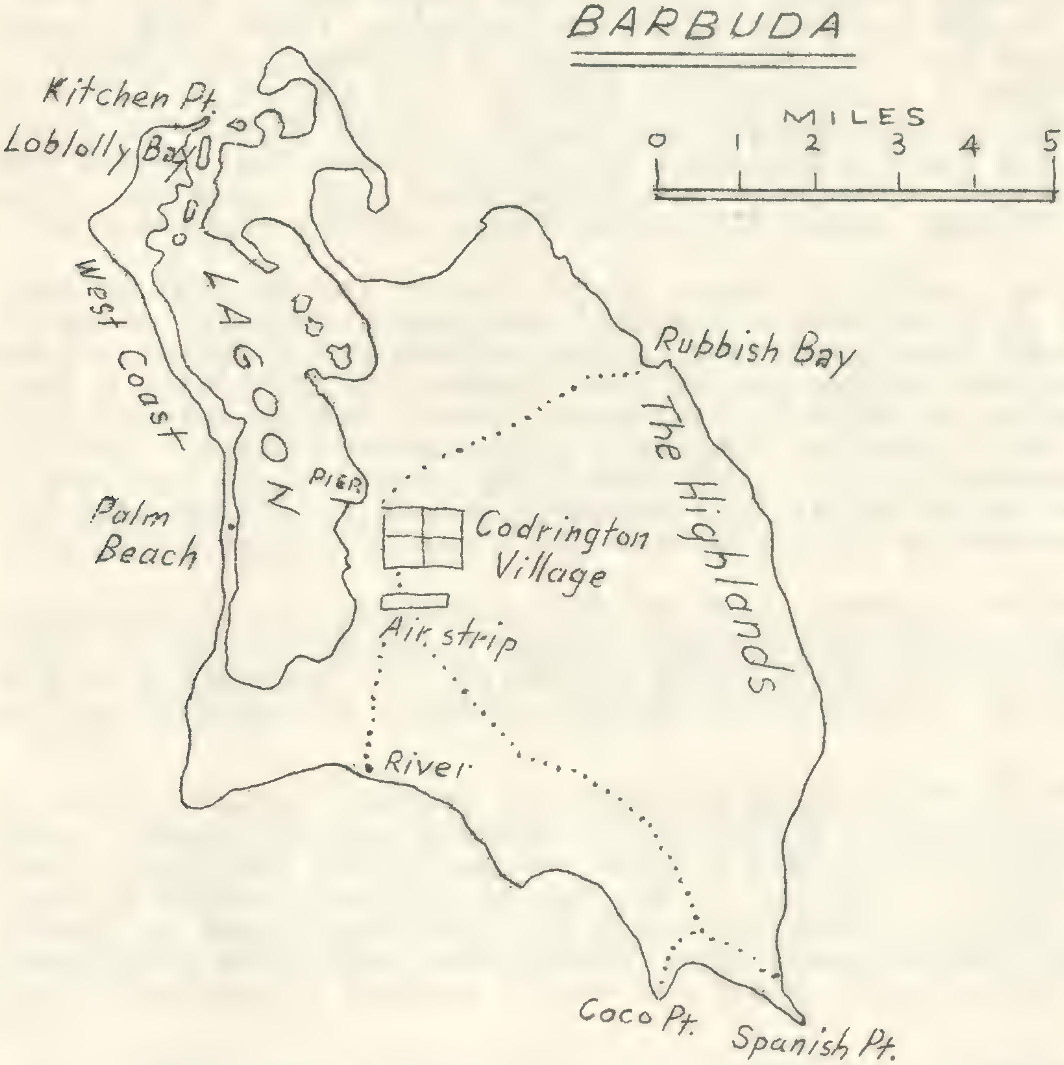
Dr. Dodd told us that it took quite a bit of sign language before he was able to convey the idea to the proprietor that he wanted a natural pair of the valves. However, once understood, he was escorted to the man's home which was about an eighth of a mile away, shown the huge pile of Atrina vexillum shells stacked in back of the house, and invited to select what he wanted. Whereupon Dr. Dodd happily selected two pairs of the distinctive shells, so black on the outside and so pearly inside, and carried them with him the rest of the way around the world.

FIELD TRIP TO BARBUDA, B. W. I.

by Gordon Usticke

Wednesday, May 18, 1960. After obtaining official permission from the Government of Antigua, we flew over to Barbuda in about 15 minutes. Our party comprised my wife, self and George Seaman of St. Croix.

The island is 64 square miles in extent, about 14 miles long, flat, and has a very large lagoon.



We managed to secure lodgings with one of the local inhabitants, (all native, total population 1300) and hired a boat to take us to the far side of the lagoon. The beach on the ocean side was pink! This was due to immense quantities - there must be billions - of the tiny pink Ervilia nitens Montague. Otherwise the beach was not too interesting.

In a sea meadow we stumbled upon a willett's nest with four eggs - large and pretty brown-spotted eggs.

On the lagoon side were large Murex pomum and Murex brevifrons, both with exceptionally long siphonal canals; also Olivas and the ubiquitous Batillaria minima, and Pitar albida mostly marked with strong orange-brown rays.

Thursday, May 19, 1960. This morning we hired a tractor with a trailer to transport us to Rubbish Bay on the east coast. We soon found out why a tractor was a necessity, the road being very primitive and poor. The ride was very bumpy and we progressed at about 3 m.p.h. with an occasional burst of speed up to 8 m.p.h. Our route was through a tropical wasteland full of thorny bushes, huge cacti including the "Organ" cactus, also a great many century plants, which grow to a height of 30-40 feet and bear bunches of orange flowers. There was also the West Indian sumac - a pretty, but highly poisonous and thorny plant. Flowers of various colors - pink, purple and red - were around, and some very pretty bright blue vines and a few brilliant yellow orchids. As we approached the east shore, I was astonished to see some big limestone cliffs, honeycombed with caves, many of them huge.

We finally came to Rubbish Bay beside an old ruined building. Rocks and vegetation 50 yards from the beach were liberally sprinkled with large Tectarius muricatus. After a few hundred yards' walk over rough limestone rocks I reached a lovely curved beach. Most of the shells were rather worn. I noted Capulus incurvatus and a very large race of Nitidula nitidella. Turning rocks over I found several small Lucapinas and many Arcas. The rocks by the sea were covered with the common large chiton Acanthopleura granulata, and many Nerita peloronta, smaller than at St. Croix, and the usual tide pool fauna including the quite rare Echininus nodulosus.

Returning, we picked up George Seaman, who had been looking for land snails with fair luck: he got a few small Chondropomas, both orange and grey varieties; Drymaeus elongata (?), Balimulus guadeloupensis (?), Helicina fasciata, and the very pretty Capsinus formosa which live in the axials of bromeliads.

After a good rest, I walked down to the mangrove swamp north of the small dock, and there I found immense numbers of Cerithidea costata var. beatty and variations. They were all along the water's edge - blackish shells mostly with pretty white ornamentation of one or two rows of dots: these Cerithidea extend in great profusion all along the swamp's shores as far as I went. Intermingled with them were fairly large Haminoea antillarum and a few dead Melampus coffeus. Numbers of red and black scorpions were under stones, etc.

Friday, May 20. Last night I heard that there had been considerable local excitement: A pair (male and female) of "Jaubelies" had been wandering about the streets at night scaring people. "Jaubelies" are in human form, covered with feathers, and only walk at night. They had frightened the best lobsterman right off the island, so we couldn't get lobster. Luckily the police now had the pair of "Jaubelies" in jail, minus feathers, and the situation was back to normal.

We set sail at 8 A.M. with George Seaman, and after a long sail up what must be the biggest lagoon in the Caribbean, we got to the mangrove area and transferred to a flat bottomed dory. In many places the bottom was thick with shells: Batillaria minima, Cerithium variabile, etc. Cerithidea costata were the most plentiful, - also there was a lovely little Chione, possibly maczyki, and a minute shell apparently Parastarte triquetra, also a

great many other shells in smaller quantities. In some places the quantities of shells were unbelievably large, possibly 1,000 or more to the cubic inch! I quite agree my figure sounds fantastic -- but I counted them!

A little way further on we came to one of the most remarkable sights I have ever seen: the nesting ground of the huge "Man of War" birds. These birds of about five feet wing spread build a small platform on the low mangrove bushes, on which the young were standing. These young birds were about two feet tall and had white heads, so that from a distance the mangroves appeared to have sprouted large white flowers. We went up to within a few feet from the young who, although two feet tall, couldn't fly - they just stood up and looked at us and occasionally snapped their beaks. There must have been over 500 of these great birds in this colony.

We had a long and interesting sail back, picking up several grunts and lobsters in fish traps.

An evening walk along the borders of the lagoon produced nothing new in shells, we failed to find any scorpions, but did get some beautiful colorful beetles and saw several pintail ducks.

Saturday, May 21. After seeing George Seaman off, we sailed up the lagoon to Loblolly Point, in a fruitless search for mangrove oysters. We saw large barracudas beneath the mangrove roots. On the way back I investigated a patch of finger coral - it was literally infested with Arca umbonata and many Arca adamsi and dominguensis, but not much else. On digging a few inches down, I came across large numbers of very large Brachidontes citrinus that had evidently been smothered by the coral above.

Sunday, May 22. We took the tractor-trailer to Spanish Point, the most easterly point of the island. If our previous trip in the trailer had been rough, this was much worse and much longer - about 15 miles. The terrain was very rocky, the vegetation sparse and thorny, though there were many of the lovely little brilliant yellow orchids as well as pink striped ones. This part of the island is uninhabited, so we were surprised to see a small boat offshore. It belonged to a retired English Naval officer, who had sailed it over from England - he looked about cooked to a crisp. He offered us some coffee, and we gave him a drink of ice water and two hard boiled eggs, and some "612" to keep off mosquitoes.

I was astonished at the paucity of shells. However, we did get some nice Vasum muricatum with purple mouths.

We then drove to Coco Point, on a beautiful sandy bay, but no shells. We had a 2½ hour trip back, most of the way in the broiling sun. My wife says she will never be the same, we had such a pounding.

Monday, May 23. I went down to the "River" by tractor. There is an interesting old Martello Tower. Again immense quantities of the tiny pink Ervilias. I gathered about 5 lbs. in a small bag. Locally they are called "dice".

Tuesday, May 24. We rode over to "Palm Beach" across the lagoon on the west coast. Walking up the beach, I noticed a hundred or so turtle tracks leading into the bushes. Besides the ubiquitous pink Ervilias, I found Sinum maculatum, Trigonostoma rugosum, various olivellas, Crepidula aculeata and pure white Pyrene mercatoria amongst others.

(To be continued)

NEW YORK SHELL CLUB NOTES

No. 67 Dec. 1960

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NEXT MEETING: SUNDAY, JANUARY 8th, 1960, at 2:00 P. M.
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY.

These NOTES are distributed by mail, free of charge, to all regular members of the NEW YORK SHELL CLUB. (Dues: $2 per year, $1 for each of other members of the same family.) Corresponding members (dues $1 per year), also receive the NOTES by mail. The NOTES are published ten times a year. Address material for publication to M. K. Jacobson, 455 Beach 139th St., Rockaway Beach 94, N. Y., to Anthony D'Attilio, 44 Lynwood Drive, Valley Stream, N. Y., or to Mrs. George Raeihle, 7924 Ankener Avenue, Elmhurst 73, N. Y. Send prompt notification of any change in address to Corresponding Secretary Mrs. Grace McDougall, 16 Baxter Ave., New Hyde Park, N. Y. For other matters address Mrs. Josephine Wichern, 62-08 99th Street, Forest Hills 74, N. Y.

JANUARY 8th MEETING, PROGRAM FEATURE:

Karl Jacobson's report on "Shelling in Germany" will be accompanied by color slides. Karl spent an interesting two months in Germany this past summer, and we've been waiting for his report.

NEW PUBLICATIONS:

"THE GENUS STROMBUS IN THE INDO-PACIFIC"

The long awaited issue of "Indo-Pacific Mollusca" on the genus Strombus by R. Tucker Abbott has finally made its appearance, and in this writer's humble opinion the waiting was well worth it. Handsomely illustrated with fine colored plates as well as black and white, all species and subspecies occurring in the Indo-Pacific are fully treated. Dr. Abbott has retained all species in the one genus Strombus, and all collectors will especially appreciate this conservative generic treatment. Species and subspecies are very well defined; one new species and several new subspecies are described.

With this work in hand, no collector should have trouble assigning any doubtful shell to its correct specific position. There is in addition much useful information on ecology, distribution, and what appears to be a complete treatment of all the fossil Strombus within the same range.

The support of all those interested in the shells of the Indo-Pacific is urged, and what better way to show it than to subscribe to such a worthwhile undertaking as the "Indo-Pacific Mollusca"? All interested collectors who have not yet done so should contact for full details Dr. R. Tucker Abbott at the Philadelphia Academy of Natural Sciences, 19th and The Parkway, Philadelphia 3, Pa.

. . . ANTHONY D'ATTILIO

New Publications (continued):

"HELPFUL HINTS FOR SHELL COLLECTORS"

On the highly recommended list of new books is the very useful "Helpful Hints for Shell Collectors" sponsored by the Hawaiian Malacological Society, 2777 Kalakaua Avenue, Honolulu 15, Hawaii. This first appears as a paper bound volume of 77 pages brimming with detailed information for those shell enthusiasts who like to do their own field collecting. The names of the authors of the articles are familiar to those who subscribe to the monthly "Hawaiian Shell News". In addition, there are illustrations showing collecting dredges and traps of proven merit. Such field collector's trade secrets as here revealed are of great value and, whether or not you intend to visit some tropical beach, a book of this nature is a must. The first edition was quickly exhausted, and it is now being prepared for permanent printing. We'll give you further information as we receive it.

. . . ANTHONY D'ATTILIO

"SHELLS AND THEIR NEIGHBORS"

is the title of a new shelletter, No. 2 of which has been recently received. This new addition to the list of amateur publications has much to appeal to the novice. Those who find interest in such subjects as shellcraft, newsy bits on fossils, shells, and numerous advertisements of varied dealers may like to have this paper. For further information contact Mabel Sterns at P. O. Box 947, Redlands, California.

. . . ANTHONY D'ATTILIO

We reprint this item from the September, 1960, issue of the"Hawaiian Shell News":

"AFRICAN SHELLS IN COLOR

The Tanganyika Society, P. O. Box 511, Dar es Salaam, Tanganyika, East Africa, has just issued a booklet of 30 pages with 8 color plates entitled "Sea Shells of Dar es Salaam". J. F. Spry is the author and we suppose Sally Kaicher (Indo-Pacific Sea Shells) did the colored art work since she gave us the tip on the above. The booklet will sell for $1 and will come postpaid . . . "

MKJ

THE VANDERVOORT AUCTION

On Sunday afternoon, December 11th, the first auction of the Vandervoort-Branham collection was held at the National Arts Club, 15 Gramercy Park South. Those attending were treated to the opportunity of bidding on many fine lots of shells in many genera, and were able to bid successfully at very reasonable prices for many showy or difficult to get Murex, Pecten, and other shells. (Ed. Note: Anthony D'Attilio was the expert auctioneer.)

The coffee break provided by the hosts served to enhance the social aspects. The auction came to a close during the first hours of one of the most severe snowstorms to hit New York in many years.

Another auction of shells from this collection is tentatively planned for February.

ANADARA OR ARCA ?

Many of the local shell collectors were a little dismayed when so authoritative a book as Dr. Tucker Abbott's "American Sea Shells" (1954) had several of our native shells assume names different from the friendly and intimate ones we had been using for so many years. One change that hurt most was from the pleasantly familiar and apt *Arca* to the unknown, mysterious *Anadara*.

We looked into this situation a little more carefully and ask for space to display our findings to the readers of these NOTES. First of all it must be understood that there are two types of changes involving generic names. One kind is a change that literally expunges a word from the list of available names and renders it completely dead. Such a change, for example, was the one that involved our local whelks, from *Fulgur* Montfort 1810 to *Busycon* Roding 1798. In this case an earlier name assumed its rightful place in the stead of a later name for the same genus. Hence all of us are required to use *Busycon* for our two species *canaliculatum* and *carica* and not *Fulgur* (unless we want to call them all scungili shells).

But there is another type of generic name change. In this case some student observes that a number of species of a certain genus have something in common that sets them off from the other members of the group. If he thinks this common characteristic is not very important, he may decide that a new subgenus is sufficient (which of course will not prevent a later student from deciding that, heck, this is important enough to make a full genus. Watch the Australian malacologists if you want to know what we mean). On the other hand he may decide that this characteristic is important and so establishes (or "erects") a new genus. Notice that the original name is not eliminated from the science (as was *Fulgur*) but is merely restricted to a smaller number of species than was the case before this troublesome student began his studies.

This is what happened with our dear *Arca*. We may use names like *Noetia* or *Anadara* or *Barbatia* or what have you -- the fact is we are still all talking about *Arca*. And fortunately for us, systematists have come to our aid and permitted us to do this. Only they bid us use the old name in what they call *sensu lato* or in the broad sense. If we are to use *Arca* in *sensu stricto* or restricted sense, we would be able to talk only about the shells that look like our Florida Turkey Wing (Arca occidentalis). But if we triumphantly cry "*sensu lato*" (or s. l. for abbreviation) we can still talk about *Arca ponderosa*, *Arca ovalis* (or *pexata*) and *Arca transversa*.

Now, what about *Anadara* erected by Gray in 1847 ? Here the story is a little complicated. It is worked out very nicely by Mr. Henry Dodge in his study of the Linnean types.

In order to fix the genus *Arca* more definitely than did Linneus when he made use of the name, a German conchologist by the name of Schumacher selected the species *A. antiquata* L. as the type. This was a good choice because *antiquata* looks like most Arcas and also like our own three humble species. But unfortunately, for some esoteric reasons that need not be gone into here, it was decided that Schumacher's selection of the type was not quite perfect, and it was expunged from the record. Hence the search had to be continued for the next earliest fixing, or "type designation" as it is called. This had been done by the Englishman Children in 1823, who selected the queer *A. tortuosa* L. as type and hence restricted the name

Arca to this single, twisted, "tortuous" species, which is quite unlike any other ark shell. Bad as this was, Children had made the earliest type designation, and, according to the sacred rule of priority, his choice had to remain. However, a group of unhappy malacologists complained to the International Commission about this pitiful state of affairs -- that the "type" designation, legal as it was, was not "typical". The commission listened to them and in 1944 set aside the prior name and established the *next* prior name as the true and valid one. This happened to be Gray's selection of *Arca noae* L. in 1847. Hence the typical, restricted, s. s. if you will, use of *Arca* has to refer to shells that look like *A. occidentalis* of Florida. So great is the power of the Commission that few dared question this choice any more. But I venture to do so. I for one don't think that *occidentalis* as the type is a great deal better than *tortuosa* as the type. Both are not typical.

In the meantime other things had been happening. Since *Arca* s. s. could not apply to the *antiquata*-like shells any more (which in my humble opinion *are* typical of *Arca*), a new name had to be selected to cover these. After some confusion about the availability of the name *Scapharca* Gray, it was decided that *Anadara* (type A. *inaequivalvis* Bruguiere 1789) should be the name *sensu stricto*. But remember that his brother *sensu lato* still permits us to use *Arca* to refer to all ark shells, and to be right!

. . . M. K. JACOBSON

THE SOUTH FLORIDA SHELL CLUB

A group of South Florida residents, shellers all, recognizing that in forming a shell club they would advance their knowledge and have a center of information, have formed the "South Florida Shell Club". As of November the group numbered about 28, and their interests lean to the scientific but include the popular. They are fortunate in having the encouragement of Dr. Axel Olsson, authority on molluscan fossils, and of staff members of the Marine Laboratory of the University of Miami. President of the new club is A. M. U. and Philadelphia Shell Club member Miss Muriel Hunter of Coral Gables. Mrs. Jane Boyle is Secretary-Treasurer. We of the NYSC wish this new club all success, and hope to hear from them as to their activities.

dr

We must admit that we are envious of the many year-round opportunities available to this group in South Florida. Of course, some of us do make brief visits to the beaches on a sunny day in winter, and have had some interesting experiences: Last winter two of our members were traversing a causeway while the gulls were using it as a shell-cracker. In addition to the worry about a broken windshield from a falling mollusk, the gulls were adding insult by dropping beautiful live specimens of an Arca that the collectors would dearly love to have had intact. Then there was the fellow on Fire Island whose home was bombarded until in self defence he painted a seascape on the roof to camouflage it from the gulls. It worked. Then again a good doctor who is one of our members, while taking measurements, slipped and sat down in the remains of a whale that had been washed ashore at Jones Beach. The ripeness of said whale was not evident in the cold air, but was realized when the affected clothing was warmed in the car. The pursuit of science does bring adventure at unexpected times.

dr

FIELD TRIP TO BARBUDA, B. W. I. (Usticke) continued from Notes #66

Wednesday, May 25th. We got up at 4 A. M. and took the trailer-tractor down to River. It was some ride - first the tire went flat and had to be pumped up every mile, then it started to rain, and we were splattered with mud and sand thrown up by the tractor wheels. Finally we rowed out to a small trading schooner and sailed to Antigua, about 30 miles off, fare $1.20 U. S.

. . . .

SHELLING IN ANTIGUA

Thursday, May 26th. We had a 4½ hour sail from Barbuda in a native sloop, and arrived at the Kensington Hotel about midday. The proprietor, Mr. Aldridge, is an American who is very interested in shells. He took us out, before lunch, to Weak Bay, just south of St. Johns, where there was some very interesting collecting on the rocks, including several live Murex brevifrons in the small pools.

After lunch we drove out to Ballast Bay, where there is a good beach with interesting shells including Heliacus indifundibuliforme Gmelin, a small brown sun dial shell, Heterodonax bimaculatus including shells in a dark bluish purple, and many small shells; also most unexpectedly a small razor clam, possibly Ensis minor.

We then drove on to Galley Bay, where we found among other things Vasum globulum and Trigoniocardia ceramida.

In the evening I looked over Mr. Aldridge's shells, and noted no less than three Conus granulatus, one quite large.

Friday, May 27th. We drove out to Morris Bay, a long sandy beach on the west coast; at the southern end were many Buttercup Lucines, Eggshells, and large Cardiums. Also many prettily marked Turbo crenulatus.

Toward the northern end were many smaller shells -- Olivella, Tegula, and a few of the pretty little Strigilla pisiformis with its little pink spot; also Aequipecten gibbus nucleus and Conus spurius, though cones were very few and far between. I also found a very prettily sculptured pure white Phos.

Saturday, May 28th. Several bays on the east and northeast coast were unrewarding outside of a fine brown Sinum maculatum.

Sunday, May 29th. We drove to Parham, the old capital of the Island, and Mr. Turner took us out on his motor boat to an island about three miles off shore. Here we found a mass of shells -- many Calliostoma jujubinum both in yellow and the rare red form, also the scarce Emarginula emarginata, a rather unusual variety of Astraea americana, and many exceptionally large bivalves including Chione paphia, Antigona listeri and A. rigida, and a very large Glycymeris new to me. The waters abounded in Strombus gigas, Fasciolaria tulipa, Pinna carnea etc.

After a very full and interesting collecting day the party returned to Mr. Turner's home on Guana Island (one of the dozen or so islands he owns) and had refreshments.

Monday, May 30th. Another trip to Ballast Bay yielded several minute

shells including Epitonium.

Tuesday, May 31st. To Mill Reef Club, which is a very beautiful American development on about 3,000 acres on the southeast coast. A 2,000 year old Carib or Arawak shell mound on top of a hill had many enormous Livona pica and good sized Strombus pugilis, as well as many other ordinary shells. Carbon dating gave a date of 300 B. C. to the bottom of the mound. Mill Reef is a private club, with guards to keep unauthorized visitors out.

Wednesday, June 1st. Another trip to Guana Island did not produce much of interest except a long slender Olivella, new to me and not listed in Olsson. There were enormous piles of Conch shells, and a lovely swimming beach -- one conch shell held a large crab, said to be capable of snipping off your finger.

Thursday, June 2nd. I couldn't help thinking about that island three miles off shore that we had visited on Sunday, and so with a little dickering we got a boat skipper to take us out. After lunch Mr. Aldridge said he had found a wonderful spot hard to get at but worth the trouble. So we went to the other side of the island -- partly through the bushes and partly in the water. When we reached the spot we hit the "jackpot", a real shell collector's dream: There was a solid wall of shells, about six feet high and extending about 500 yards along the shore. The shells practically all in fine condition and good bright colors. No need to bend down! Just reach your hand out and pick what you want! I was amazed and didn't quite know where to start, and I never did progress more than about 100 yards before it was time to return. My wife went on much further and had the time of her life -- all she did was stand in the water and pick up the shells as they were washed in!

We got a number of the beautiful "Virgin Island Latirus", Latirus virginensis Abbott, an extremely pretty and dainty orange shell with white knobs, quite rare. Also many lovely color variations of Pecten antillarum, including purple, vermillion, orange, yellow, lemon, brown and pure white, prettily banded and often flecked with china white, and several large Turritella exoleta etc. etc. Mrs. Aldridge picked up some enormous lower valves of Spondylus americanus, for use as ash trays.

We sailed back to the mainland in a happy frame of mind, which state was helped by the judicious application of a bottle of rum and some Coca Cola.

. . . . GORDON USTICKE

We have on hand another very interesting article by Mr. Usticke on "The Ham Bluff Splash Pool Zone at St. Croix. It will start in an early issue.
Ed.

NEW NUMBER OF JOHNSONIA COMPLETED

The first papers of Volume 4 of Johnsonia were waiting for us when we returned home from Florida -- 80 beautiful pages on the Genus Calliostoma in the Western Atlantic. This #40 will be reviewed in our next issue.

NEW YORK SHELL CLUB NOTES No. 68 Jan. 1961

Recording Secretary
CATHERINE A. SCHMITT

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

President
GEORGE E. JACOBS

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Historian
FRED CANNON

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, FEBRUARY 12th, 1961, at 2:00 P. M.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

SPECIAL EDITOR M. K. JACOBSON

Karl Jacobson is the founder of these NOTES. It is his work and enthusiasm that is responsible for their being. For the first several years of their publication he was editor, author, wheedler of material, maker of layouts, stencil cutter, printer and printer's devil, mail clerk. With the increase in circulation, the chores were shared, but editorially the NOTES were still a one-man operation.

About two years ago Karl found himself with the very full schedule of his work as head of the language department at Andrew Jackson, as teacher of evening classes (conchology) at the American Museum of Natural History, as co-author of a book (conchological). In addition, he spent his summers in study instead of taking a vacation. It was then that he started the practice of dashing in, handing a sheaf of papers and giving rapid-fire instructions to the stencil cutter-ess, and dashing off to his next appointment. Last fall, still under the press of work, he announced that he was resigning as Editor of the NOTES. We would not, just could not, accept his resignation. He insisted. However, after weeks of listening to our protests, Karl has at last modified his resignation and will remain with his project, these NOTES, as "Special Editor" -- conchological expert, advisor and contributor.

THE PUBLICATION COMMITTEE,
NEW YORK SHELL CLUB NOTES.

REVIEW:

THE GENUS CALLIOSTOMA IN THE WESTERN ATLANTIC
by William J. Clench and Ruth D. Turner
JOHNSONIA, Vol. 4, No. 40, November 1960, pp. 1-80, 35 plates.

This latest monograph in the superb JOHNSONIA series lives up in every respect to its predecessors. It is clear, comprehensive, magnificently illustrated, and in every way the last word on the subject. For the amateur its chief value lies in its conservatism of nomenclature. There is only one genus, Calliostoma, with three subgenera: Calliostoma s.s., Emerlinia n.sbg and Kombologion n.sbg. Since the subgenera are based mainly on radular and jaw characteristics, several species, for whom these organs were not available for study, are left without subgeneric assignment. Thus we have one genus and three subgenera for some 41 species. This compares most favorably with the situation in Australia where, according to the latest work (South Australian Mollusca, Archaeogastropoda, by Bernard C. Cotton, 1959) there are no less than 13 genera with some rather fancy names: Laetifautor, Salsipotens, Benthestalena, etc. etc. for 49 species. We must indeed remain ever grateful that our scholars do not so unnessarily seek to overburden our memories. The conservatism of Clench and Turner is also apparent on the subspecific level, where not a single subspecies (even for our common jujubinum)is admitted.

The Callistoma are truly handsome shells, most of which are known only from rather deep water. Nevertheless it should be remarked that our member in St. Croix, Mr. G. Usticke, is credited with collecting (presumably on the beaches) a number of the genus which inhabit deep water only. Hence not all hope for non-dredgers need necessarily be surrendered.

Anyone whose interest goes even an inch beyond collecting "pretty shells" only, should possess this outstanding work in malacology.

MKJ

NEW PUBLICATION:

"MOLLUSCS, An Introduction to their Form and Functions", by J.E.Morton, Lecturer in Zoology, Queen Mary College, University of London. Now available in a U.S. printing by Harper and Brothers, New York. 220 pages with 23 black and white figures, each figure comprised of several drawings. Paperbound, $1.40. Here is an introduction to malacology, very clearly written so that even the amateur will find it easy reading. The field collector who likes to observe as he collects will find that this book will add much to his understanding.

FROM TAHITI:

"...Shell collecting has been rewarding here in French Polynesia. The natives have little batches of shells to show and we collect as we go along. Today we have collected from four localities. Dr. Rehder collected a few years ago on the other side from ours so we should be able to give him records. We leave Tahiti tomorrow for Fiji for some time through January 14th. Each of us longs for golden cowry conquest ...."

RUTH A. CRAINE, Nov. 27, 1960.

A REVIEW OF THE MOLLUSCAN FAMILY HARPIDAE

The shells of the molluscan family Harpidae are among the most beautiful of all mollusks and are readily appreciated on sight by both the professional conchologist and the amateur layman. The name Harpa was given to these shells in 1771 by Walch, and they have been known by this name ever since. The resemblance of the shells of this family to a harp cannot be mistaken by anyone. The shells have a high natural polish and most of them are highly colored as well, which add to their attractiveness. To conchologists, this family has always posed something of a problem inasmuch as there is no intermediate family to connect them to any other group of mollusks. While they display some relationship to the Olivas, or Olividae, and possibly to the Volutidae, the gap separating them is very wide. As Reeve put it in his "Conchological Iconica": "The most characteristic features of the shell are so perfectly distinct from those of the proximate genera, that one is almost tempted to imagine that there must be a gap, on either side, in the system which nature has omitted to fill up, and the animal, according to Quoy-Gaimaro exhibits quite as isolated an association of character. The foot or locomotive disc of this animal is so large and muscular that it is incapable of entering the shell, and the animal is said to have the power, when irritated or in any dangerous emergency, of spontaneously divesting itself of so much of this muscular disc as it is unable to protect."

In her book, "Australian Shells" Joyce Allen has this to say of the Harp shells: "Harp shells display a combination of dark, rich coloring and perfect symmetry of lines and curves. The conspicuous longitudinal ribs which are characteristic of all species are analogous to varices in canalled shells, each rib in turn forming the margin of the aperture of the growing shell and serves to protect the shell aperture while the shell is obtaining full growth."

Harp shells occur only in tropical waters, but none are found in the Western Atlantic. The only one in the Western Hemisphere is Harpa crenata, Swain, occurring in Western Mexico, Panama, Nicaragua, etc. One also is found in the eastern Atlantic, Harpa rosea, Lam. from Senegal, Africa. The animals are said to be as brightly hued as the shells themselves, and none of the Harp shells possess an operculum. The mantle is usually reflected over the shells, and this is what keeps the shell so bright and polished, as is the case with Olivas and Cypraeas.

The Family Harpidae is what I would call an example of a classic family. By this I mean we have no sub-families, sub-genera, or multiple genera to contend with to any extent. A Harpa shell is still a Harpa shell, fortunately! Still, in Australia, they have managed to come up with two new sub-generic names, - Palamharpa and Austroharpa, but as one is a fossil and the other a rather obscure species, we need not be too concerned with either.

There are today ten species generally recognized as valid. In spite of the fact that there are only ten different Harp shells in the world, they are as often confused and misrepresented as are shells of genera that number several hundred species each. These ten species, with their synonyms, are as follows:

10 HARPA SPECIES:

Harpa amouretta, Roding (minor Rumphius)
" conoidalis, Lam.
" costata L. (imperialis Lam.)
" crenata, Swain
" davidis, Roeding (articularis,Lam.
Harpa exquisita
" gracilis, Sow.
" nobilis, Rumphius
" rosea, Lam.
" ventricosa,Lam.(major)

Of all the Harp shells, Harpa conodalis is the most variable. The variations in this case consist mostly in the coloring and the number and intensity of the black lines on the rubs. Because of these black lines the species is often confused with Harpa davidis, or articularis, which also has similar dark lines on the ribs. However, a careful examination will disclose that the festooned painting between the ribs is much more distinct in H.conoidais than in H. davidis. Also the ribs of the latter are always sharply angular and usually narrower, and besides H. davidis appears to be a lighter shell than conoidalis.

Harpa costata, the rarest and most sought-after of the Harp shells can readily be identified by the number of ribs, which, in this case, number thirty or more; by the deep striations in the interstices between the ribs; by the elevately-pointed at the top ribs; and a bright orange stain on the columella and interior of the shell. Also, the apex is rose-tinted and the spire very widely canaliculated.

Harpa rosea and Harpa nobilis are somewhat similar if you read the printed description of these shells, but are easily distinguished when the two shells are compared to each other. In Harpa rosea, the ribs are more feebly developed than in H. nobilis; they are not crossed with the same vivid black lines, but, most important, the rose spots which give the shell its name are more abundant and characteristic, of a much more delicate color and usually arranged in three interrupted bands.

Harpa crenata is the only Harpa that can be recognized instantly. The lip of this shell is very strongly crenulated and has a peculiar deep blue-gray color, irregularly sprinkled with a few very large crimson purple spots. Harpa gracilis is a very thin, delicate looking shell, with narrow, smooth spineless ribs. Although this shell is confused easily with Harpa amouretta, or minor, because both are of about the same size, both being small shells, Harpa amouretta has a more ovate shape; is more brownish-looking, and has the ribs crossed by black hair-like lines ranging in pairs. Harpa exquisita is not very well known, but is an Australian shell, small, about 1" long, and has concentric ridges.

Finally, we come to Harpa ventricosa, which is the most difficult, in my opinion, to identify. It is repeatedly confused with Harpa conoidalis and also with Harpa costata. Indeed, many shells labelled as Harpa costata are nothing more than ventricosa, which is a common shell.

In Harpa ventricosa, according to Reeve; "the ribs are broad, and are angularly compressed"; which is one of its distinguishing characteristics. "The ribs are stained with flesh color and square spots of purple-red; the interstices vividly painted with regular festoons of reddish-brown, and the columella very highly enamelled and oramented with one or two dark brown blotches. The aperture is very large, variegated with light flesh color and purple."

George E. Jacobs.

BROKEN LEG NO DETERRENT TO COLLECTOR!

Ever try shell collecting while navigating on two crutches and one good leg? If the misfortunes of a broken limb should ever befall you, here are some pearls of wisdom from one who has made the trip before you!

First, if your plans include a plane flight, as ours did, before leaving practice going up and down stairs on crutches. The steps leading to the interior of planes are rather steep. Second, take long walks out doors,- planes always land quite a distance from available transportation.

After we landed in Miami I began to practice walking in sand. Removal of the rubber crutch tips prevents losing them in the sand, altho the crutches did sink a bit lower. (Be prepared for the stares of curious sun and surf bathers) Wearing a belt with a plastic bag looped over it keeps both hands free for maneuvering crutches and collecting. You'd be amazed how selective you become when collecting in this manner! Mr. Usticke's suggestion of looking through the drift thrown up at the high water mark (NOTES Nov.'57) sounded like a splendid idea, but my rewards were poor; one small Spirula spirula and a lot of tar on the seat of my shorts! In front of the hotel the jetty pilings, which were within easy reach at low tide, provided some Siphonaria and a few Thais. The best collecting began the day we left Miami Beach, late in March. My husband and I stopped off at the Marine Lab of the University of Miami to see Bob Work. He said the best collection area in that vicinity was Crandon Beach at the end of the Rickenbacker Causeway. Since it was impossible for me to wade out or skin dive for the shells, they came to me via the generosity of Mr. Work who, judging from the colorful and beautifully cleaned specimens he gave me, must have a marvelous collection of his own.

Driving south from Miami, in no time at all we were travelling over the causeways and bridges of the Florida Keys. Marathon, on Vaca Key, was our destination. There we contacted David and Nevada Schmidt, who live in Wisconsin but have been ardent collectors for twenty years. They have been coming to the Keys for many years and know all the good spots. Not only did they lead us to these places, but went out with my husband on the sand bars, mud flats, and into shallow water showing him where and what to collect, while I searched among the mangrove roots and under bridges. Later the Schmidts brought home the specimens they had collected, boiled them out and presented them to me, once again strengthening my conviction that shell collectors are about the finest people one can find anywhere. To name just a few of our finds: Laevicardium laevigatum, Lima scabra, Astraea longispina and americana, Spirula spirula, Chitons, (2 species) Pinctada radiata, Pinna carnea, Haminoea elegans, Strombus raninus, Janthina janthina and globosa, Conus spurius atlanticus, Hipponix antiquata, Vasum muricatum, Marginella guttata, etc.

After the Schmidts left for home, we met a couple from Alberta, Canada, who had come to the Keys to spend a week! They had never collected shells before but here they were five weeks later! They followed the low tides, amassing a tremendous amount of sea treasures. All our collecting was done on Crawl, Grassy, Vaca, Ohio and Little Duck Keys. Although most of my collecting was limited to sandy beaches, it was quite simple to clamber over the rocks along some of the shoreline, merely by sitting on one rock and then hunching from one to another, making use of my arms and one good leg, I was able to get around quite a bit. One thing which struck me as peculiar was the scarcity of pectens and Anomia simplex on the beach, these being so common on the Florida west coast.

A method of cleaning Janthinia which might prove to be of interest to other readers of the Notes: Remove the jelly-like float, put into a jar of water. When the jar is half full of shells and full of water, hold under swiftly running tap water. The bodies float out over the edge of the jar, but the shells remain inside. Despite the agitation, there is little or no damage to these fragile shells.

Collecting in the Keys is an enjoyable experience, the weather is delightful, the people friendly and the accommodations plentiful. Try it sometime, with out without a broken leg!

April 10, 1960.

Gladys McCallum, Secretary,
Boston Malacological Club.

*****

LETTER FROM MR. CORBETT TO NICK KATSARAS, OCTOBER 1960.

"You ask about poor Douglas Salmon. Well, some time ago they packed up and moved to Imperial Beach, California, but soon they found out they hated fog and smog. They moved to Pacific Beach. That was a bit better, but still bad. So, off they went again to Texas. Too cool and too much rain there so they packed up again and started for the Florida Keys. At Marathon they rented a house and he found a job at a realty company. Then came the warnings of "Donna"! So, he packed again, all he could put in his car, including his best shells and went to Homestead for the hurricane. Well, their rented house was demolished; they lost all their furniture and some shells; all they had left was in their car and on their backs!

The Chandlers of Massachusetts had just come down and opened a Shell Shop in Ft. Meyers Beach, and had quite a nice cypraea collection. Their shop is washed into a mangrove swamp! Its lucky Mrs. Branham was not there.

One woman who stayed on the Keys where Salmon was, climbed onto a table as the water came up into her house, and got hold of an inner tube. She was washed out as the house went to pieces. She was washed against a tree with only two feet of tree top above water. She clung to this and the tube all night. She had some ribs broken but she hung onto that tree top and at daylight she was rescued!

They say the Shell Factory loss is $100,000. I have not heard yet if the Branham Collection was damaged. I imagine not as it was housed in the strongest building, as I recall it.
(Note: Phone call revealed no damage to collection). Just had Mrs. Corbett get Mrs. Raines on the phone. Her nice house is damaged and her garage is gone, but her shells are safe. I guess she left during the hurricane."

Regards, W. Corbett.

NEW YORK SHELL CLUB NOTES No. 69 Feb. 1961

Recording Secretary
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

President
HAROLD S. FEINBERG

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, MARCH 12th, 1961, at 2:00 P. M.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

AT OUR ANNUAL MEETING, FEBRUARY 12th: The members unanimously accepted the new slate of officers as presented by the nominating committee, then gave a "Thank you, well done!" to retiring president George E. Jacobs and staff for having served us so faithfully the past term.

NEW RECORD FOR LITTORINA MESPILLUM MÜHLFELD

While on holiday in Bermuda in July, 1959, NYSC member Stanley Sokoloff collected 140 to 150 living specimens of Littorina mespillum Mühfeld, taking them from tidal pools on a rock terrace at the ocean front at Devonshire Bay. He has recently been advised by Dr. William J. Clench and by Dr. R. Tucker Abbott that this is the first time that Littorina mespillum Mühlfeld has been reported from Bermuda. It was suggested that it must have been previously overlooked because of its small size. The specimens Stanley collected tally in every respect to the descriptions in JOHNSONIA (No. 7) and in AMERICAN SEASHELLS (page 133), even to the numerical preponderance of the dull brown over the spotted form. These published records show the range of Littorina mespillum Mühlfeld as from Curaçao through the Caribbean and the Florida Keys to Grand Bahama Island. Stanley's find extends the range roughly 850 miles to the north.

THE PALM BEACH COUNTY SHELL CLUB SHOW will be held March 2-3-4-5, 1961, at the Lake Worth Casino, A1A at Lake Worth Road. The Wisoffs brought back enthusiastic reports of the 1960 Show, and those of you who will be in that neighborhood will surely want to visit this one. There will be competitive displays in 14 categories. Non-members are also exhibiting.

NEW PUBLICATIONS:

MOLLUSKS OF THE TROPICAL EASTERN PACIFIC
Part I: PANAMIC-PACIFIC PELECYPODA, by Axel A. Olsson

572 pages, 86 phototype plates. Contains thorough descriptions with keys of the living pelecypods of the area Panama - Chile. Founded on first hand collecting of Recent and fossil shells of the Central and South American coasts and of study of type specimens in the museums of Europe. Gives a discussion of the eastern Pacific shores, currents, explorers, and habitats. Regular price $15.00, Prepublication price (until June 1, 1961) $13.50. Ready for distribution in March, 1961. Please include payment with order. PALEONTOLOGICAL RESEARCH INSTITUTE, 109 Dearborn Place, Ithaca, New York.

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REVIEW OF THE ABALONE IN CALIFORNIA, by Keith W. Cox.
California Fish and Game vol. 46, no. 4, October, 1960.

A booklet of 25 pages and 9 plates, 8 of which are in color and show the exterior and interior of the west coast species of Haliotis. Fig. 1 shows an anatomical drawing of the animal. There is also an identification key. This study was made as a legislature-directed investigation of the Abalone fishing industry. Mr. Cox and his predecessor, the late Paul Bonnot, have gathered together all of the published information on the 8 west coast Haliotis and some not previously published. We believe the booklet may be had on request. The address is: California Dept. of Fish and Game, Printing Division - Document Section, North 7th St. at Richards Blvd., Sacramento 14, California.

. . . Albert Taxson.

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"THE COWRY"

Indicative of the enormous growth of interest in molluscs is the appearance of a new periodical devoted exclusively to Cypraea. In truth, in the degree of their spirited interest, the cowry collectors are in a class by themselves. It is the hope of the editor and publisher to continue publication on a regular basis. The price is six shillings per issue (about 80¢) and Vol. I, No. 1 (16 pages, 2 photo plates containing 15 fig.) has really interesting material for both collector and advanced student. Those interested should contact: Lt. Col. R. J. Griffiths at Smuggler's House, Gorran Haven, St. Austen, Cornwall, England.

. . . Anthony D'Attilio

(Note to above: Bill Old expects to have several copies of Vol. I, No. 1 at our March 12th meeting. He reports that Nos. 2 & 3 are progressing.)

- - - - - -

Re: TEREDO - CILIA - UNDERWATER PERISCOPE

An excellent article by biologist Charles E. Lane of Miami University on TEREDO NAVALIS from embryo to ravished plank, with astounding microphotos, is a suggested addition to your reference library. CILIA, by Peter Satir, includes electron micrographs of the cilia on the gills of a fresh-water mussel. The AMATEUR SCIENTIST column gives instructions and diagrams for building an underwater periscope for observing marine life. All three articles are in the February, 1961 issue of the SCIENTIFIC AMERICAN MAGAZINE, 415 Madison Ave. (12th floor), New York 17, New York. Price 50¢.

Dr. R. L. ALSAKER
by Nick Katsaras

Rasmus L. Alsaker was born in Norway in 1883, and came to this country when four years old. He worked his way through high school, college, and medical school. After practicing successfully in Denver and St. Louis he moved to New York City. Here, besides his private practice, he became Medical Director of Bernarr Macfadden's Health Service Bureau and Editor of Health Culture Magazine. It was through this magazine that we met, and in five short years Dr. Alsaker became the world's greatest Voluta collector! It came about this way:

I went into one of those health stores in New York and I saw this Health Culture Magazine. I bought one and read it. The editorial, the leading article, and the "Health Forum" were all written by Dr. Alsaker. I was very much impressed, and said to myself: "I must see this man, I hope he is in New York." Sure enough, he was! It was March, 1955, when we first met. During the seventeen weeks Dr. Alsaker treated me I, as always, carried some of my best shells in my pocket. I started showing these to the good Doctor, and he fell in love with them. He started coming to the shop in this museum and to McArthur's for his first shells. I advised him, and he learned fast, very fast!

That was about the time I was preparing for my 1955 summer trip to Florida. I hardly knew him then, yet he gave me $400 in cash to bring him shells from Florida, "mostly Voluta", he said. After my return he asked me for names of dealers near by. He went to Boston and returned with few Voluta, but he brought many other fine and rare shells, including the largest and finest Harpa, also the finest Conus aulicus I've ever seen. How he managed to talk a collector out of it I'll never know. Not long afterwards he made trips to Philadelphia and returned with several rare Voluta, once even a Voluta pringlei, a shell I had hardly ever seen before, and another time the first fine Voluta bednalli I'd ever seen. At the Buttonwood auctions he was just about the biggest buyer, and added many new species to his collection. By then he was on his way to building his great Voluta collection -- at one time he had 700 or more specimens, including the rare Cottonia nodiplicata, and Amoria exoptanda.

Meantime, in 1956, he moved to Florida. (Ed. note: The first time he exhibited at the St. Pete Shell Show he won the Smithsonian award for his Voluta display.) He was a terrific letter writer, and corresponded with collectors everywhere. In one letter he wrote me, "If you are offered 'Voluta spenceriana', beware and take care, for it may be only V. caroli oddly marked." One Voluta he was not able to secure was Voluta festiva. I tried to help but it was no use. Also he once asked me to try for Conus gloriamaris. I did write to the Philippines but we knew it was a waste of time.

Finally the collection was getting so valuable that he did not wish to keep it in his apartment any longer. So when Dr. Harald A. Rehder told him the Smithsonian would like to have it, he gave it to him right then and there, telling him he would send the most valuable shells first, and the rest when he felt he could part with them.

On June 14th, 1960, Dr. Alsaker died in St. Petersburg, Florida. He was 77. In September a St. Petersburg friend reported that the promises to give the Voluta to the National Museum and the Hawaiian Conus to the Chicago Museum were being honored by Dr. Alsaker's niece, Mrs. Draper.

WHAT IS A SHELL COLLECTOR?

by MATHILDE WEINGARTNER

This question can best be answered by asking another: For what purpose does a collector collect shells? There are a number of reasons:

1) Some people collect shells as show pieces (objects of art) to display in a glassed-in cabinet. These collectors may have to search for years, and/or pay a rather high price to obtain the perfect and beautiful specimens they desire. They may then swap or sell some of their prized possessions to other collectors who have the same object in mind.

2) Some collectors are interested chiefly in the scientific side of shell collecting. These people won't pay high prices for perfection (indeed, may never buy a shell), but will go out into the field and observe and collect their own specimens. If they have a surplus, they may swap or give away specimens to obtain others of scientific value, to round out a series, to get various subspecies, or to increase their general knowledge and that of their associates in a particular phase of the scientific endeavor. (Ed. note: Quite frequently valuable bits of new information are contributed by these amateurs. For an example, see Page 1 of this issue!)

3) Some people just like to handle shells, like the feel of the out-of-doors, and get a real "kick" out of their maybe "inconsequential" shoeboxes full of shells. These shells bring back fond memories of places visited and people met, the feel of the climates, and of friends' reactions when shown these souvenirs. These people may in time be channelled into one of the other two groups, but they may just remain as they are, happy with their collections, - and is it not happiness we all strive for?

Everyone has his own freedom in a hobby, and everyone may collect shells in his own manner and house and enjoy them in his own way.

REGARDING "DONNA" AND THE KEYS

In NOTES #68 we printed a letter describing some experiences with "Donna" as she crossed the Florida Keys last September. We visited the Keys two months later. As we drove down the Overseas Highway we noticed that the evidence of storm damage was not uniform: We saw areas that were stripped, then, just two or three hundred yards away, an adjoining area seemingly intact, even to lawn and shrubbery. Naturally we inquired, and were told that there were tornados within hurricane "Donna". Whatever was directly in the path of a tornado suffered severely, - however, other areas came through the hurricane with, comparatively, little damage. In addition, the storm's fury struck only the central section of the Keys, not the entire chain. Cleanup and repairs were going along at a fast clip (we were able to stay at our favorite place and to eat at our favorite restaurant), and though many shops and hostelries were delaying their opening two weeks or more, everyone was looking forward to the season. We write this for the benefit of those who may have planned a trip to the Keys but are hesitating because of reports such as "Marathon was wiped out!". It wasn't, not by a long shot. Make your trip and have fun!

. . . Mr. & Mrs. George Raeihle

Rediscovered or New Localities for Conus.

The remarkable growth of interest among the Philippine people in conchology has led to the increased search for molluscs beyond the very rich but well known shore fauna. This has been effected both by means of dredging and skin diving, and in this regard, some of the growth of interest in dredging should be credited to the recent duPont, Philadelphia Academy of Science Philippine Expedition. Many new localities are being investigated, and many yet remain to be, if one bears in mind the enormous number of islands in this vast archipelago. At the present time only shallow depths in the neighborhood of 20-30 fathoms are being probed. What will be revealed when deeper dredging, down to 100 fathoms, is done on a systematic basis, can only be awaited with keen interest by all students.

Because of the wide interest in Conus at the present time, much attention has been paid to this genus, so richly represented in the Philippines. The following records have come to my attention but no doubt many will have escaped notice, and any reader, familiar with such data, is urged to place this important information on record in this or other publication.

1. Conus acutangulus Lamarck: Moqueda Bay, Samar, in 15 fms. A large specimen measures 44 mm. This is also found by skin divers in Hawaii. With its very high spire and deeply grooved spiral surface, it bears a close relationship to Conus sowerbyi Reeve.
2. Conus alabaster Reeve: Southern Philippines, (Siasi, Sulu ?) The sculptured surface of this white shell is delicately reticulated in a way reminiscent of the surface of Ficus or some Tellins.
3. Conus aureus Hwass: Zamboanga City Coastline, 55 mm. This, and the following, obtained off shore by divers.
4. Conus auricomus Hwass: Zamboanga City Coastline, 53 mm. This is Conus clavns of authors, non Linne.
5. Conus aurisiacus Linne: Zamboanga City Coastline Occasional dead beach specimens, and, very rarely, a live one from deeper water.
6. Conus bullatus Linne: Central Philippines This well known, but always rare and beautiful cone, according to Philippine reports, has been taken, oddly enough, with hook and line from a few fathoms.
7. Conus characteristicus Dillwyn: Manila Bay and elsewhere First publicized by the Academy Expedition dredgings from Manila Bay.
8. Conus circumcissus Born: Zamboanga City Coastline. Dead beach specimens infrequent; occasional live specimens taken in deeper water.
9. Conus cylindraceus Broderip & Sowerby: Zamboanga City Coastline. A rare, but extremely wide spread species.
10. Conus mitratus Hwass: Zamboanga City Coastline. Widely dispersed throughout the Indo-Pacific, but never plentiful in any locality.
11. Conus nobilis Linne: Balabac, Palawan 45 mm.
12. Conus parius Reeve: Tabaco Bay, Albay 35 mm. Solid, small, yellow-ochrish-colored shell with rounded shoulders.

13. Conus pica, Adams & Reeve: Balabac, Palawan
The original figure and description of this easily distinguished cone appeared in the "Zoology of the Voyage of the Samarang." A white shell, formed like Conus spectrum, but enriched with rows of blackish dots and sporadic appearing blotches of black.

14. Conus praefectus Hwass: Moqueda Bay, Samar
A few specimens observed, evidently less than mature, were about 42 mm. The crimped and coranted spire and simple, non-ornamented light tan color are characteristic.

15. Conus pulchrelineata Hopwood: (same as striatella Link)
A specimen, the first to come to my attention, from Sulu corresponds exactly to those from East Africa, where it is a common shell.

16. Conus radiatus Gmelin: Manila Bay
The full grown specimens are yellowish-ochre to tan, with no ornamentation and about 50 mm.

17. Conus cf radiatus Gmelin: Balabac, Palawan
This form is stouter and shorter, about 40 mm., and its color is a dark brown (chestnut).

18. Conus scalptus Reeve: Lusong, Bataan
A specimen of 22 mm. corresponds closely to Reeve's figure and description.

19. Conus spectrum Linne: Zamboanga City Coastline
Similar in form and size to the Queensland form, but showing some modification in color pattern.

20. Conus sulcatus Hwass: Carigara Bay, Leyte
The correctness of the early "China Seas" records tend to be borne out by present day findings.

21. Conus suratensis Hwass: Central Philippines
Several specimens examined lead one to suspect that this is not conspecific with Conus betulincus Linne.

22. Conus thalassiarchus, Gray: Cuyo Is. Palawan.
Specimens from this area are whitish shells with blackish-brown markings, a color form distinct from those formed around Zamboanga. Shells from the latter area are creamy white and the very variable pattern is mostly in shades of yellow brown.

23. Conus bernardi Kiener: Antimonan Bay, Quezon City
It is allied to Conus cinereus gubrieli Kiener in shape, with spiral grooves covering half to three quarters of the body whorl. It differs by its uniform dark chestnut color which is more or less spotted with white flecks.

24. Conus cf bandanus Hwass: Balabac, Palawan
Related to the marmoreus-bandanus complex, the painting is very variable; the throat beautifully flushed with a warm apricot color. An extreme form bears the name Conus vidua Reeve, of which a readily found picture appears in Walter Webb's "Handbook for Shell Collectors," 1948, Pl. and Fig. 1.

25. Conus sp. ? Balabac, Palawan
Possibly a variant of Conus lignarius Reeve; the spire is more clearly and consistently coronate; the base is darkly stained, and the painting, in addition, differs somewhat from lignarius as follows: dots; in the shell under discussion the dotted lines frequently coalesce to form axial streaks, a characteristic never noticed in many lots of lignarius from different localities. In any case, apparently easily separable from lignarius.

26. Conus sp. ? Magallones, Sorsogan
Similar in size and shape to a conus lignarius of medium size but pure white.

27. Conus cf vimineus Reeve: Moqueda Bay, Samar and Carigara Bay, Leyte.
About 40 mm. Figure 1. Deep grooves run spirally over the entire slender shell and moderately high spire. Raised growth striae crossing the grooves give them the appearance of being punctate and the same applies to a lesser extent to the raised surfaces. The suture of the seven post nuclear whorls are sharply defined by raised revolving cords. Nuclear whorls are about four, smooth and shiny. The shell is light tan in color and there are darker squarish spots over most of the shell which are connected here and there to form axial streaks.

Conus insculptus Kiener is close to this, except for its cornate spire.

28. Conus sp. Tabaco Bay, Albay Figure 2.
A solid, golden colored cone about 55 mm. with a rich, orange flushed aperture. The specimens are sometimes undecorated but when painted there are vertical, brown, wavy streaks and markings arranged axialy, and forming vague spiral bands. Besides some incised lines over the lower half of the shell, there are raised revolving cords on the spire.

The writer's collection, in addition, contains one specimen from Rabaul, New Britain.

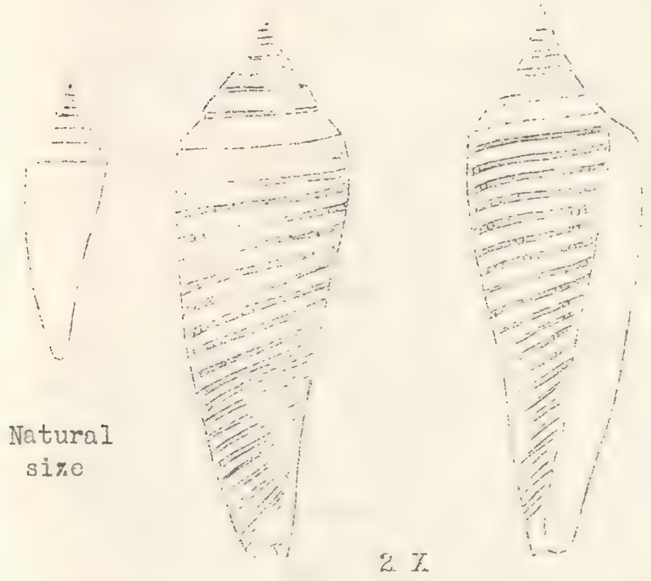
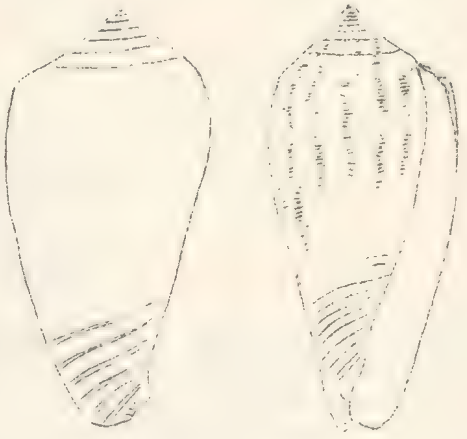


FIGURE I



Natural size

FIGURE 2

Anthony D'Attilio.

NEW YORK SHELL CLUB NOTES No. 70 March 1961

President
HAROLD S. FEINBERG

Recording Secretary
WILLIAM E. OLD

Historian
NICK KATSARAS

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
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Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, APRIL 9th, 1961, at 2:00 P. M.

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SPECIAL PROGRAM APRIL 9th:
Our guest speakers will be Mr. and Mrs. George T. Kline, members of the Academy of Natural Sciences of Philadelphia. They will show us color slides taken on their trip to New Caledonia. George Jacobs saw this presentation at Yale, and tells us it is something we should not miss. Make it a point to be here and enjoy it.

THE NEW PUBLICATION WILL BE HERE SOON !

"SHELLS OF THE NEW YORK AREA"

by M. K. JACOBSON and W. K. EMERSON
Illustrated by A. D'ATTILIO
with a foreword by R. TUCKER ABBOTT
being published by ARGONAUT PRESS

The authors, illustrator and publisher, NYSC members all, gave us a preview at our March 12th meeting, and it is going to be tough to have to wait another two months or so before the book is off the presses. This work is something to be really proud of. Conceived about seven years ago, it was not done in a hurry to quiet our demands, but has been labored over lovingly, with meticulous attention to details. 150 marine, land and fresh water species are described and illustrated. Collecting areas are listed with the shells found at each location. The text is not limited to dry statistics, but includes interesting and informative comment. A majority of the species listed range from Cape Cod to Cape Hatteras, so the book will be valuable also to collectors of the nearby coastlines. Each shell will have its illustration and descriptive text on the same page! (No flipping of pages to find Plate X, Figure Y, on Page Z -- something every reader will appreciate!) The beautiful and accurate pen and ink illustrations were drawn from the actual specimens and clearly show all the characteristic

details of the shells. Tiny shells (such as Mitrella lunata, etc.) are shown both in actual size and well enlarged. Mrs. Bernard Mazel of the Argonaut Press has designed the most attractive jacket -- a montage of the illustrations contained between the covers. This will be a hard cover book, and its price will be about $3.50. Though many were offered, no advance orders were taken -- we'll have to be patient just a little longer. We'll let you know when you will be able to get it, and that promises to be in time for the summer shelling.

. . . Dorothy Raeihle.

THE 28th ANNUAL MEETING OF THE AMERICAN MALACOLÓGICAL UNION

Will be held at the U. S. National Museum, Washington, D. C., June 20-24. At present we have only the date. We'll give details as soon as we get them. Meanwhile, mark your calendar and plan to attend if at all possible.

SOCIEDAD MALACOLOGICA DEL URGUAY

Recently we received word concerning this society in South America that was formed in 1957. From a letter from the Secretary, Mr. Eliseo Duarte, we copy the following (my translation): . . . "In general, all of us have done our share to raise the listed number of Uruguayan shell species to more than 500. We have almost carried the entire beach to our houses in order to study the sands exhaustively. How many Caribbean species reach our shores! How many of the species of southern Argentina mix with Caribbean species in the fortunate zone of La Paloma, Rochas (beach in Uruguay: Editor's note) !

Our meetings every fortnight take place in my house. We meet around a table made of sixty-four different types of wood from the forests of the U. S. A., so that one could play chess on it. What a table for botanists! We are surrounded by my collection that has more than ten thousand species. The atmosphere of the meetings is very informal but at the same time we enjoy the most scientific discussions, such as can be found, for instance, in college lectures. . . . Each member arrives with a portfolio or box beneath his arm containing the fruit of some collecting trip, or a gift, or a shell shipment. Some one reads a letter from a distant correspondent, or shows around a recently received book on shell systematics. Another produces a shell to discuss, or the proofs on some article he is writing about shells, or a new idea of improved collecting methods, and even sometimes a handful of candies. Oh, what happy days when some particularly fortunate member has a surplus of shells and generously shares them with the rest!

And then there are the meetings in the houses of different members and the cordial farewells to some fortunate one who is setting out to collect far, far away." . . .

The Society has twenty-five members, including among the well known men Professor Luis P. Barattini, Dr. Miguel A. Klappenbach, Dr. Elias Alveta, and Dr. Nieves O. de Medina. Dr. Juan Jose Parodiz of Carnegie is one of a number of foreign honorary members.

. . . M. K. JACOBSON

ANNUAL FIELD TRIP, JUNE 10, 1961, to ORIENT BEACH STATE PARK

The area was selected as being the most productive in the vicinity, - the date because low tide will be at a convenient hour (2:42 P. M., Daylight Saving Time). We will have a chartered bus, for which reservations will be necessary. We'll keep you posted on the arrangements.

FROM THE MAIL BAG:

We have a cordial letter from the president of the South Florida Shell Club inviting any of our members who are in town (Miami) to get in touch with them. Their members, as do ours, cover the range of interests in conchology -- "from professional biologists to rank amateurs, from fossils to recent to microscopic shells." No meeting schedule was mentioned, but you may contact President Muriel E. Hunter, 4591 S. W. 16th Street, Miami, Florida, or Mrs. Elizabeth DuPuis at HIghland 8-0556 for information.

- - - - - -

". . I have a good correspondent in Queensland, and she wants to exchange for some American marine shells, especially beautiful ones from Florida. If you know of anyone in Florida or the Shell Club who is interested, she has beautiful North Queensland marines to offer. She is very reliable and sends good stuff. Her name and address: Mrs. Louisa Turner, "Glasscotte House", 1 Rita Street, Innisfail, North Queensland, Australia."

. . . FRANK HAUSMAN

- - - - - -

J. Shields, 418 Loretta Place, Apt. 509, Seattle 2, Washington, has Pecten hericius for sale. The price is three for $2.50.

. . . DORMA COLEY

(Foreword: NYSC members Lee and Mary Pequignot have been visiting the Keys every winter for many years (on their early trips a ferry to Marathon was part of the route), and they know where what marine species should be found, and when. He knows most of the Liguus hammocks by their first name, and can report on which areas have more 'red bugs' than Liguus. Mary goes along on these expeditions in spite of chiggers and poison bark. She calls herself 'just a beachcomber', but quietly collects prizes that stack up with the best. They have sent us the following report, and we hope it is only the first of many. . . . . . Dorothy and George Raeihle.)

Akron, Ohio, February 16, 1961

"Shelling was rather poor down on the Keys. It was just starting to get better when we left (Feb. 1st). Found a couple of 'carrier shells' and an 'Angular Triton' (Cymatium femorale) on the last low tide. Also found alive many Laevicardium laevigatum and Astrea longispina. Pink conchs weren't coming in yet. A friend found a Chlamys mildredi off Key West. Winds continued to be high, making screening difficult. Each year my conviction strengthens that from February thru April is the time to shell, because it is during this time that many species that were never found become plentiful. It is their spawning season. Anyway we had a full load of shells and junk to haul home.

Got a big kick out of the fossil trip. We left Marathon about 4 A. M. and after meeting the gang at Islamorada we proceeded to Harney's Pond Bridge. We stayed at a motel fishing camp and went to Sunniland next morning. We worked over several dredgings and drove to Everglades City where we stayed

all night. Next day we went Liguus hunting off the Monroe Station Road and got back home about 10 o'clock that night.

The trip was profitable as we got lots of specimens from the dredgings at Harney's Pond Bridge area, about half of them being of recent forms, the other half greatly modified or extinct. The screenings from there were especially interesting and included a couple of extinct Epitonium. Sunniland showed a much earlier deposit. Most of the various forms had turned to stone except pectens, which were remarkably preserved -- found fan, nodosus and two other kinds. Mary and I both are much interested.

Will give you a breakdown of the last trip to the Everglades: Saturday, Jan. 28th. Bill Hutchins phoned that Saturday they were making up a trip to a hammock I had wanted to go to for years, north of the trail off 50-mile bend. This is in the scrub cypress country and a very rough journey about 15 miles back, but it is the home of Liguus nebulosus, a very rare species. The week before I had told them that that was my last trip this season, but when I heard where we were to go was eager to go along. Left Marathon at 3:30 A. M. and reached Islamorada at 4:15. The rest of the gang were ready and we ate breakfast at Homestead, getting to our place of departure at daybreak. Don Poppenhager, our guide, met us with his swamp buggy and after loading our equipment and the six of us on the buggy we started across the Tamiami Canal on a bridge that was about a foot under water. You couldn't see it but I guess it was there, anyway we got across.

We took a hunting trail that resembled a canal winding thru the scrub cypress. Water averaged about 18 inches deep. After plowing thru or along this for half an hour we came to higher ground (hammock) and an Indian village where the fall corn dance is held. The village showed much destruction from Hurricane Donna and was unoccupied at this time. We soon left this hammock and again took to the trail or canal north of the village. We must have travelled for about three hours when the guide and some of the other passengers began to look for traces of the hammock we were hunting. All I could see was water and cypress trees stretching endlessly on both sides of us. We kept going for another hour then, after a consultation, they decided that they must have passed the hammock. Don, our guide, said there were a couple of hammocks just ahead that none of us had been to, so after plowing thru the mud and water, in and out thru impossible holes between the trees, we began to see the green heads of trees and soon came to the hammocks. We landed, but our search revealed only hybrid snails of white or black striped color (Liguus castaneozonatus). As these were not what we were after, we ate our lunch on the buggy and started back along the buggy trail made coming down. At a certain spot Bill noticed a huge cigar orchid that he had observed the year before high in a tree, so he left the buggy and took off by foot thru the mud and water around the trees! After going about a mile we came to higher grounds and soon came to hardwoods. We found hybrid Liguus of white color and hybrids of nebulosus and maybe a few pure strains. It was about two o'clock when we got on the hammock so at four the guide called us off, as we had a long trip back to civilization. We got back to our car just as darkness settled and got home to Marathon about 10 P. M. after the roughest trip I have ever made in the Everglades.

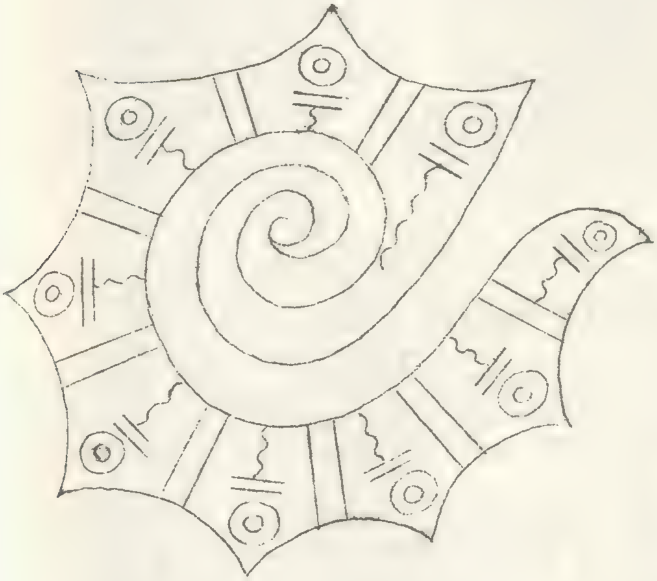
The pure strains of Liguus are rapidly disappearing in this country and if it continues, nothing but crosses will be left, and as white is the strongest strain they are mostly becoming white. You can see this in a group of shells from the same location. . . ."

LEON PEQUIGNOT

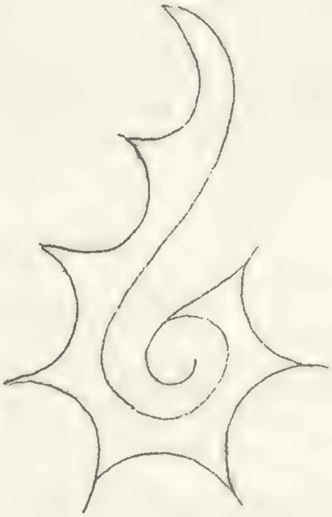
SHELLS IN PRE-COLUMBIAN ART

by E. F. Cowles Jr.

Of the 30,000 years of human habitation in the Americas, the first nine-tenths have left little trace. Permanent settlements, based on agriculture, were a comparatively recent development. Even these, except for shell mounds along the coasts, left little for archaologists to find until pottery-making was invented. Curiously, almost no pottery from the initial stage of the art has been unearthed; but some of the earliest examples known were modeled after pre-ceramic containers: gourds, animal bladders, baskets, and shells. Indians of the Southeast, who had used scoops and ladles made from long-canaled whelks, copied them in clay. Even the nodes on the spire and shoulder were duplicated, perhaps out of superstitious reluctance to omit any characteristic of the original. Gradually such additions to basic form developed into abstract decorative elements, especially as they came to be painted rather than molded on.



Shell symbol incised on vase from north-central Mexico; late pre-Columbian (author's collection).



Part of design engraved on polished stone disc; Moundville, Alabama.

Civilization flourished proportionately as leisure. In favored temperate and tropical regions, where the gathering or growing of food did not require the efforts of the whole population, many individuals specialized in the textile, ceramic, and other crafts. Also, the ruling class and religious hierarchy grew more powerful, numerous, and wealthy, creating a demand for fine goods of all kinds.

In the central Valley of Mexico, as we know from finding the baked-clay stamps, shell motifs were among those printed on textiles. Isthmian and Colombian metalsmiths cast or hammered gold-copper alloys into shell shapes.

The Mixtecs of south-central Mexico, in their bark-paper dynastic history "books", painted highly decorative conventionalizations of shells and other marine creatures. The ceramists of Colima, in west Mexico, duplicated Strombus gigas for jugs and Xancus angulatus, even to the internal whorls, for trumpets. Peruvian potters were fond of the Spondylus shape and texture. This reddish shell itself was prized in Peru and Mexico for mosaic inlay in combination with turquoise, pyrites, and obsidian. The Aztec emperor Moctezuma's tribute roll shows 800 Spondylus as the semi-annual tax due from certain coastal villages.

The Maya revered Spondylus and Pecten; priests wore them on their robes, and their burials commonly included pieces of sacred cinnabar and jade inside a pair of the valves. A fringe of Oliva porphyria was strung as tinklers on many a Maya costume. On numerous pieces of Maya painted pottery a deity - such as Mam, god of earthquakes - is shown emerging from a large gastropod shell or with his torso encased in it.

Sculptured sea shells alternate with the feathered-serpent heads on the sides of the pyramid at Teotihuacan known as the Temple of Quetzalcoatl. Slice a Strombus gigas across at the shoulder, and you have the knobbed spiral cross-section that was a symbol of Ehecatl, god of the winds, and of Quetzalcoatl himself. One of many indications of affinity between the Mound Builders of this country and the Mexican pyramid-culture is an engraved stone disc unearthed at Moundville, Alabama, and now in the Peabody Museum, Harvard. It bears this same symbol.

DR. JEANNE SANDERSON SCHWENGEL

The New York Shell Club members have learned with regret of the death of Dr. Jeanne S. Schwengel on February 17th in St. Petersburg, Florida. She was attending a meeting of the St. Petersburg Shell Club.

Dr. Schwengel's interest in shells extended over a long span of years --- the Florida exhibit at the World's Fair of 1939 featured a display of shells that were from her collection. During 1952 Dr. Schwengel was President of the American Malacological Union. She was of a generous personality, and made many contributions to the social success of more than one A. M. U. meeting. She was a research associate of the division of mollusks at the Academy of Natural Sciences of Philadelphia, where she had studied under Dr. Pilsbry. In addition to her contributions of scientific papers on mollusca, she was well known as co-author, with Dr. Louise M. Perry, of "Marine Shells of the Western Coast of Florida", published in 1955.

Dr. Schwengel's private collection of over 6,000 specimens was noteworthy especially for the splendid collection of Florida and Caribbean shells, many of which, both shallow and deep water specimens, had been secured by her own efforts.

ANTHONY D'ATTILIO

MARCH 1961 SUPPLEMENT TO ROSTER: MEMBERS JOINING NYSC SINCE SEPT. 1960

BERNARD, Mr. Rickie
250-29 41st Drive
Little Neck 63, N. Y.

BURT, Mr. and Mrs. A. W.
3555 Netherland Ave.
New York City, N. Y.

CAMPBELL, Miss Janet
264 Norwood Avenue
Deal, New Jersey

CHASSIN, Dr. Maurice R., &
daughter Laurie
110-20 68th Drive
Forest Hills 75, N. Y.

FREED, Miss Rita
1806 Manor Drive
Union, New Jersey

GERMER, Mrs. John
653 Briarcliff Avenue
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New York 40, N. Y.

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226 East 59th Street
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Little Neck 62, N. Y.

LAUCIUS, Mrs. Anelle, &
daughter
9334 92nd Avenue
Woodhaven 21, N. Y.

MACCARI, Miss Joan
100 Howard Place
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MEADOWS, Mrs. Harvey & Family
726 Avenue O
Brooklyn N. Y.

MERRILL, Mr. Arthur S.
Box 473
Woods Hole, Mass.

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1339 Sussex Road
West Englewood, N. J.

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85-29 261st Street
Floral Park 26, N. Y.

OLD, Mr. William E.
Amer. Museum of Natural History
Central Park West and 79th St.
New York 24, N. Y.

ROHMAN, Miss Johanna W.
64 So. South Carolina Ave.
Atlantic City, New Jersey

SAMMARCO, Mrs. Genesia
178-10 Wexford Terrace
Jamaica 32, New York

SCHWARTZ, Mr. John
22 Florence Street
Great Neck, L. I., N. Y.

SPEERS, Mrs. F. H.
Box 878
Sinton, Texas

TRICOMI, Miss Elizabeth
43-22 63rd Street
Woodside 77, N. Y.

WERNER, Mr. Milton, Jr.
70 Richmond Street
Brooklyn 8, N. Y.

NEW ADDRESSES FOR OLD FRIENDS:

COLEY, Mrs. Dorma P.
810 Caroline Ave., Apt. C-4
Winston-Salem, N. C.

NGAI, Dr. S. H.
281 Edgewood Avenue
Teaneck, New Jersey

AND A CHANGE OF NAME AND ADDRESS FOR:

AHDERS, Miss Catherine, now:

SCHMITT, Mrs. Charles B.
506 West 113th Street
New York 26, N. Y.

NEW YORK SHELL CLUB NOTES No. 71 April 1961

Recording Secretary
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

President
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Vice President &
Public Relations
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62-08 99th Street
Forest Hills 74, N.Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, MAY 14th, 1961, at 2:00 P. M.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

PLANS FOR THE ANNUAL FIELD TRIP JUNE 10th, to ORIENT BEACH STATE PARK:

Prepaid reservations are necessary for the chartered bus. Cost will be about $2.75 per person for the round trip (Mighty big bargain!) and it is requested that payment be made at the May 14th meeting. Mr. Mansfield Fuldner is handling the reservation list. If a sufficient number of requests are made, passenger pick-ups will be arranged in New Jersey and Manhattan as well as in Queens.

NEW PUBLICATION:

CARIBBEAN SEASHELLS
A guide to the marine mollusks of Puerto Rico and other
West Indian Islands, Bermuda and the Lower Florida Keys
by GERMAINE L. WARMKE and R. TUCKER ABBOTT

For shell collectors, malacologists, skin divers and beach-combing tourists. Describes 800 species of shells, most of which are not found in any other book on seashells. 44 photographic plates, some of which are in full color, and many line drawings. Features an extensive guide to the shelling areas of the Caribbean. Each major island is conchologically described, with travel hints, when and where to collect, and how best to clean and ship home specimens. $8.95 postpaid from: Livingston Publishing Company, 818 Montgomery Avenue, Narbeth, Pennsylvania.

CASSIS CORNUTA: Stanley Levine has a large colorful specimen of Cassis cornuta that he received from the Caroline Islands. The sender has a supply of these Cassis that he will sell at the reasonable price of $2.25 each, postpaid, but would send them in a bulk package rather than singly. Get in touch with Stanley if you would like to share in the proposed shipment.

THE HAM BLUFF SPLASH POOL ZONE AT ST. CROIX

by Gordon Usticke

At Ham Bluff there is an area of more or less flat rocks that affords an almost ideal opportunity to investigate the splash pool marine fauna. At the commencement of this area the ground slopes upwards very sharply to the Bluff on which stands the lighthouse on the northwest tip of the island. Facing toward the sea there is an irregular mass of rock, which is honeycombed with holes large and small, and has a great many pockets capable of holding water, some small, some quite large - these rocks are weathered in such a way that the edges are almost razor sharp, so that a false step and a slip means more or less several lacerations, many cuts and scratches. (Recently a lady slipped, and had to go to the hospital for treatment.) Every care should be exercised when walking here.

1. As we face seawards, we are about 50 yards from the water, and the spot we are standing on is bone dry. No water other than rain water reaches here except, very rarely, the exceptional storm and high water. As we look at the rough rocks we see thousands of Tectarius muricatus Linne, all over the rocks and in every crevice, all sizes from large 24mm. shells down.

2. As we walk a few yards seaward, we reach depressions which are usually dry, but do hold some rain water rather frequently. Here the Tectarius muricatus are joined by Littorina ziczac (the lineata variety) which line the edges of the pools, just out of the water.

3. As we carefully progress another few yards, we find pools that still hold mainly fresh water, but are seldom completely dried out: Here the first two shells are joined by Nodolittorina tuberculata Menke - those lining the sides of the pools are in good condition and the ones in the water show little sign of erosion, but seem taller than the others.

4. As we go on a few more yards we come to the start of the real salt water zone. There are now no Tectarius muricatus, but there are vast quantities of young Littorina ziczac both on the dry rocks and in the pools.

5. At about 12 to 15 yards from the water's edge, we notice the first of the large Echininus nodulosus Pfeiffer - they usually are on the edges of the pools just in the water; the pools are filled with the much smaller Nodolittorina, usually quite badly eroded. A few young Nerita peloronta Linne, also, will be found in these pools.

6. At 10 yards from the water's edge we enter the light spray zone, and the water must be quite saline. Here the shallow pools are often filled with hundreds of the pretty little striped Puperita pupa Linne, which shows an endless variation of stripes. There are also badly eroded Nodolittorina in the pools, the edges of which are swarming with Littorina ziczac and its variety.

7. At about 8 yards from the water's edge we suddenly encounter a great many Nerita tessellata Gmelin on the floor of the pools; also a few Nerita versicolor Gmelin, and, along the sides of the pools, well out of the water, many quite large colorful Nerita peloronta. Littorina ziczac is still very plentiful around the edges of the pools.

SHELL DISTRIBUTION IN THE HAM BLUFF SPLASH POOL ZONE

Distance from sea:					
1. 50 yds. Ground dry & rocky	Tectarius muricatus	——	——	——	——
2. 40 yds. Mostly dry; some rain pools.	"	Littorina ziczac	——	——	——
3. 30 yds. Usually wet. Many rain pools.	"	"	Nodolittorina tuberculata	——	——
4. 20 yds. Pools partly salt	——	"	"	——	——
5. 15-12 yds. Pools mostly salt, a little spray.	Echininus nodulosus	"	" (eroded)	Nerita peloronta (small)	——
6. 10 yds. Pools salt water, light spray.	Puperita pupa	"	" "	"	——
7. 8 yds. Pools salt, considerable spray.	"	"	" "	" (big)	Nerita tessellata, N. versicolor.
8. 5 yds. Pools fresh salt. Heavy spray.	"	" (few)	" (very few)	" (huge)	" "
9. 3 yds. Pools fresh salt. Heavy spray.	Littorina mespillum minima; Littorina meleagris in small pools. Thais rustica, Livona pica (small) in deep pools. Purpura patula on rocks.			"	" "
10. Water's edge, Heavy breakers (Except on the exceptional calm day.)	Seaweed and black sea urchins. In the deeper pools are Chiton marmoratus, Chiton viridis, ceratozona rugosa, Livona pica; and under rocks Chiton tuberculatus. On the rocks above the water are Chiton squamosus, large Acanthopleura granulata, Purpura patula, and Nerita peloronta.				

8. When we get to about 5 yards from the water's edge we enter the zone of
& continuous and heavy spray, the water 100% saline. Hardly any Nodolit-
9. torina are to be found, but Puperita pupa is very plentiful, as is
Nerita tessellata. Not many Littorina ziczac are to be seen - mostly the lineata variety - about 15% are in the water, the rest on the pool edges. In the quieter pools there are many huge Nerita peloronta, usually on the bottom; and here for the first time we notice some Thais rustica Linne hunting their prey on the bottom - they seem usually to prefer Puperita pupa and Littorina ziczac. An occasional Livona pica Linne can be noticed wandering around as though lost; also an odd one or two small Purpura patula.

From here on to the water's edge the pools are filled with fresh salt water that is being continuously replenished as each new wave dashes in, sending spray flying high into the air and into your face. Here great care is necessary, as the waves dash in with tremendous force, and that rare extra large wave may leave you floundering in three or four feet of water with spray flying all around you, - and if you are not prepared for it, LOOK OUT! Some time back a friend of mine wasn't, and he was lucky to escape with only 29 big cuts and numerous gashes, scratches and abrasions, besides having his wrist watch torn off and losing all the belongings he had with him. He was after some extra large Purpura patula.

To get nearer than 5 yards to the water's edge you must wait until that rare rather calm day comes along. Then if you carefully examine the tiny pools you will be rewarded by finding the scarce tiny Littorina mespillum form minima Gray Wood, a tiny white shell covered with black dots, and, if you look still more carefully, those black spots on the bottom may turn out to be Littorina meleagris Potiez and Michaud, a minute black shell with white spots.

If you look up on the rocks here in the spray zone you will see more of the large Nerita peloronta, and then you will make out the Purpura patula Linne which cling so tightly to the rocks that it is almost impossible to dislodge them unaided, - I recall one time trying to secure an extra large one, and its grip was so strong that I snapped off the blade of the knife I had attempted to pry it off with! When you do get them off they exude a milky fluid which stains your hands (and clothes) a bright reddish purple.

If you look carefully you will see the large chiton Acanthopleura granulata Gmelin pressed tightly against the rocks - these are quite impossible to remove without the aid of a strong knife, and the biggest and best ones seem to choose such spots to live in that they are almost impossible to get at, if you value your skin.

10. After the rocks shelve away, there is nothing but deep water - two miles offshore it is over two miles deep. Should you be fortunate enough to be here on one of the rare calm days, you will see an amazing profusion of life on the last few feet before deep water: The first thing to strike your eyes is the presence of seaweed, and every available nook and cranny and pool is filled with black sea urchins - which is a clear indication of the fact that this area is always wet and never gets dried out. Then if you look into the pools - usually one or two feet deep - you will see a number of the beautiful "Marbled Chiton", Chiton marmoratus Linne, which exhibits immense variation in its handsome brown markings and, unlike most chitons, has a polished surface.

A few of the very scarce Chiton viridis Spengler can also be located, and you might find a Ceratozona rugosa with its hairy girdle, but these are very hard to spot. Then look for an overhanging rock well above the water: in such a place you may see the pale greyish to yellowish Chiton squamosus Linne. This shell almost never goes into the water, but lives on rocks exposed to heavy spray - I have seen this in the water only on very rare occasions, and then only in one inch or less. Look under small rocks for large handsome Chiton tuberculatus. It is impossible to approach these large chitons on the usual day - the waves are much too rough.

An added note on Puperita pupa: When a prolonged dry spell occurs, most of the pools dry up or become much smaller and very saline, all the shells then will cluster around the pool edges, barely touching the water. The only exception seems to be the Puperita pupa, which stays in the water no matter how saline. These animals seem to be able to live out of water for extended periods.

A NOTE ON NASSARIUS TRIVITTATUS

by Anthony D'Attilio

On February 26th a small party of N. Y. Shell Club members made a trip to Bayville, on the northern shore of Long Island, to collect a bagful of the edible mussel, Mytilus edulis. This locality has been found to be of more than usual interest for collectors -- it has been the locale of an annual Club field trip as well as having been visited by various members many times. It was here that many of us had our first opportunity to collect Acmaea testudinalis and Lunatia triseriata among other shells of interest. Prompted by this writer, a few members have been induced to try the gastronomic pleasures of the delectable mussel, and so to field studies has been added another good reason for visiting Bayville.

On this day an examination of the shell debris at water's edge at low tide (0.0) revealed large numbers of Nassarius trivittatus. Since this, unlike Nassarius obsoletus, is not always found as a common intertidal species, it came as a surprise to find the lower drift line littered with these snails -- dead, dying and some still very much alive. Having due respect for the iciness of the 50 to 60-mile wind that was blowing, only a few minutes were devoted to collecting about 200 specimens.

What was found to be especially attractive about these shells was the color variation. Violet and yellow were represented in most specimens: the main color was yellow with three bands of violet in varying degrees of intensity. In other specimens the bands ranged from violet-brown to brown to tan. A search among the lot revealed that some of the less than mature specimens were either entirely yellow or entirely violet. Inasmuch as this observation of the color range may not hitherto have been made, it was considered that it might be worthwhile to make a note of it at this time.

Upon drying out and after extracting the animal, the shells appear a drab greyish white with only faint bands of color. This is due to a thin limy deposit which becomes translucent only when wet, upon which the brighter colors are revealed. Apparently in time one must expect the soft violet in the bands to fade to brown?

(Footnote: The mussels were much enjoyed after a little cooking and a bit of seasoning.)

The following article is from "THE CONSERVATIONIST", an official publication of the New York State Conservation Department, Albany, New York. Issue of June-July, 1960:

MUSSELS BY THE MILLIONS

In Europe clams are not considered fit to eat while edible mussels (Mytilus edulis) are so popular that they cost almost as much as oysters. On this side of the Atlantic, for no logical reason, the popularity ratings are reversed. You may need a license to dig clams, but mussels are yours for the taking, for they are plentiful.

Edible mussels are those unmistakable dark blue bivalves which live by the countless millions along certain stretches of seashore and always down towards the lowtide mark. Besides their color and the huge colonies they grow in, their most important distinguishing feature is their beards, the tough threads they anchor themselves by. No mussel is satisfied with one well-placed anchor, but attaches itself to everything firm in the immediate vicinity, from rocks and shingle beach to neighboring mussels. The threads are so strong that if you try to pick up the mussel of your choice, you inevitably raise a carpet of the creatures. When one thread gets broken, the mussel manufactures another, and it can also discard threads that seem undesirable.

Since many of the biggest mussel beds are found in somewhat brackish water, such as that at the mouth of a tidal river, you must be positive that the water is uncontaminated. Otherwise, gathering enough mussels for a feast has no problems. Bearding them is much more work. Some people recommend cutting, others use a stiff wire brush and the bearding can be done either before or after cooking.

The classical French recipe is Moules mariniere. For a simplified version, put the mussels into as wide a pan as you have with some boiling water into which thinly sliced onions and celery have been added. Steam until they open, eat on the half-shell. The broth is the best part of all.

(Editor's note:) The Shellfisheries Management Unit of the New York State Conservation Department sent us information concerning the condition of the shellfish lands in our vicinity. We are sorry to state that all the beaches in the five boroughs of New York City and Westchester County are in areas described as "in such sanitary condition that shellfish thereon shall not be taken for use as food". Draw a line on your map from Port Chester through Glen Cove to Lido Beach on the Atlantic Ocean. Eastward of this line the conditions improve, but still to be avoided are the obviously polluted waters of Zach's Bay, the harbors and shorelines of populated areas and the tributaries draining them. At least a half-mile from the mouth of tributaries and sewer outlets is a good rule to follow if you are in an area that seems otherwise to be in immaculate condition. Don't be discouraged -- there is still a lot of clean, free flowing salt water, Jones Inlet to Montauk, Glen Cove to Orient Point. Just use discretion, and your eyes and your nose. Ask questions. Gather the mussels at low tide. Those that have attached themselves to rocks and are well clear of the sand are usually grit-free. A household rubber glove will protect the collecting hand. The mussels are delicious, and do not need a French recipe. Treat them simply, as you would the steamer clam, Mya arenaria, and enjoy them!

dr

NEW YORK SHELL CLUB NOTES No. 72 May 1961

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. Jacobson

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The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, JUNE 11th, 1961, at 2:00 P. M.

THIS WILL BE THE 100th REGULAR MEETING

OF THE NEW YORK SHELL CLUB

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y promptly of any change in address.

PROGRAMS FOR JUNE:

JUNE 10th: Field trip to Orient Beach State Park, Long Island.

JUNE 11th: Regular meeting. Our speaker will be Dr. William Dodd. He will show us color slides of his trip to Madagascar, where he was with an expedition sponsored by the Philadelphia Academy of Natural Sciences.
Fred Tobleman will present the Shell-of-the-Month.
We will have members' informal reports on the field trip.

NOTICE:

At our May 14th meeting three new by-laws were adopted by majority vote. All three were in the interests of economy:

1st It was voted to discontinue the monthly notice-of-meeting postal cards. The necessity for them is no longer pertinent, as our meetings are scheduled regularly for the second Sunday of the month. (Mark your calendars far ahead!) We will endeavor to have program items listed in these NOTES well in advance of the meetings.

2nd Members one year delinquent in dues shall be dropped from the roster.

3rd The NOTES will not be sent to members who are three months or more delinquent.

NEW PUBLICATIONS:

"HOW TO KNOW THE AMERICAN MARINE SHELLS" by R. TUCKER ABBOTT

A Signet Key Book, KT375, priced at 75¢, this paperbound contains over 200 pages, 12 color plates, very many black and white drawings. Describes 403 species found on Atlantic and Pacific coasts, with an easy arrangement of text and illustrations. Includes a glossary of common conchological terms, a digest of 1960's shellfishery laws, and other informative chapters. We quote the author: "This introductory handbook will serve as a stepping stone to the more sumptuous volumes already available in the subject of conchology. It was prepared both for the beginner and advanced collector who might not wish to expose his advanced books to damage or loss at the seashore." . . It's a fine little book that will undoubtedly find its way into most of our pockets.

The APRIL and MAY ISSUES of "NATURAL HISTORY"

(Which is the journal of the American Museum of Natural History) report a study of the populations of two siltstone reefs located southeast of Newport Harbor, California. The author, Dr. Willis E. Pequegnat, is an associate program director with the National Science Foundation. The title of the article in the April issue is "New World for Marine Biologists". Part II, in the May issue, is entitled "Life in the SCUBA Zone".

A team of marine biologists using self-contained breathing apparatus - SCUBA - made a study of the organisms and their ecology on these two siltstone reefs in the Corona del Mar area, not too far from Los Angeles. They found many unfamiliar species, some new to science, and they extended the range of many others. The first article is concerned with the zonation of the reefs and the effect of environment as a deciding factor in the selection of a habitat by a marine organism. The second and concluding article describes food sources and the diverse methods of feeding of the many types of life on the reef. It shows how food and its availability also determine how and where on the reef the animal will live. The delicate balance under which the reef population lives and competes for survival is precarious and can easily be disturbed. By destroying that balance through uncontrolled pollution, industrialization can kill the richest remaining untapped source of food left to the human race.

These articles also point out where the future important shell collecting will be done --- in the SCUBA zone!

. . . . ALBERT TAXSON

AN EXHIBIT OF MARINE SHELLS in the lobby of the Stratford Avenue Elementary School, Garden City, Long Island, has been set up by a group of NYSC members under the chairmanship of Mrs. Winfield S. Thompson. The shells and literature on display are from members' collections, and the exhibit will be on for most of the time remaining of this school term.

Mr. Walter Trott, Principal, invites visitors to stop in any school day, any hour until 11:00 P. M.

JULIA ELLEN ROGERS, Author of "THE SHELL BOOK"

by Dorma Paxson Coley

I first met this wonderful lady in 1941 during my first trip to California. I had been asked to make a short talk at a meeting of the Long Beach Shell Club on "Collecting Shells on Sanibel Island". As I entered the meeting room, the program chairman met me at the door, and said:

"Oh, Mrs. Coley! Our chief speaker has laryngitis and can't be with us. Could you possibly extend your talk to half an hour or even longer?"

Well, I was young in those days -- what I lacked in knowledge I made up for in sheer brashness. I talked. I talked and answered questions for at least an hour. Shortly after I began to speak I noticed a rather plump, older lady being escorted to the most comfortable chair in the room. As I talked this lady kept smiling and nodding in response to my words. I felt that she was interested in what I was saying and encouraging me to continue. After the meeting the hostess took me to this lady and said:

"Julia Ellen, I should like you to meet Dorma. Miss Rogers, Mrs. Coley."

I nearly fainted from embarrassment. To think that I had had the audacity to speak before the great Julia Ellen Rogers! I, who did not know a single shell by its Latin name! I said:

"Oh! Miss Rogers, were you ever so bored with a speaker?" She replied:

"On the contrary, it has been a long time since I have enjoyed a talk so much. I once spent a most delightful summer on Sanibel, and as you spoke I was following your every footstep. . . "

The fact that Julia Ellen Rogers owned but one shell is quite generally known, but only her friends knew she collected dolls. On one occasion when I was in her home she showed me part of her collection. There were dolls of all sizes and descriptions. All had been given to her and there was a story behind each one. Julia Ellen looked upon her dolls as her personal possessions, but she did not look on shells in this way at all. Over the years people sent her hundreds and hundreds of fine shells, but she kept only one of them, a Cassis rufa. Her feeling was that shells should be shared with the world. No one has any conception of the number of shells she gave away.

I believe it is not too generally known that Miss Rogers was not primarily a conchologist. She truly loved shells, but her interests were chiefly in other fields. She was first of all a teacher, lecturer, author and civic leader. She was active in many organizations whose work was in the fields of education and the betterment of mankind. At one time she was Editor of the Nature Department of "Country Life in America. She was author of "The Tree Book", "Wild Animals Every Child Should Know", "The Book of Useful Plants" and others as well as "THE SHELL BOOK".

She was greatly responsible for the organization in 1939 of the Long Beach Shell Club, which is still one of the most active clubs in the country.

On one occasion, when I tried to express to Miss Rogers what her shell book had meant to me, she said:

"I really did not know a great deal about shells. The summer after my Tree Book was published I was asked by the University of Chicago to write a book around some shell picture plates which were in their possession."

(However casual this statement, there is evidence that Miss Rogers did much serious research in the preparation of her "Shell Book".)

Although Julia Ellen's knowledge may not have been extensive, her book has probably done more to promote an interest and knowledge of the subject than any other - at least for its time. "THE SHELL BOOK", first published in 1908, is no longer considered the "Shell Collector's Bible". However, Dr. R. Tucker Abbott of the Academy of Natural Sciences feels, as many of us do, that "THE SHELL BOOK" did more than any other single factor to instill and promote an interest in shells. During a recent conversation with him, he stated that it was through Julia Ellen Rogers' book that he first became interested in these jewels of the sea. When he was just a lad, living in Montreal, "THE SHELL BOOK" was the only one on the subject available in the library there. He read it many times and it was the stimulus which resulted in his becoming one of the greatest scientists in his field.

Each year Miss Rogers held open house. People came from all over the country. The last open house I attended at her home was in 1952, on her 86th birthday. . . As the years went by she did not lose her interest in life and people. After she became blind she continued to invite friends to her home. She held reading groups and discussions on world events. She never lost interest in projects for the conservation of natural resources and the betterment of the world in general.

Generally speaking, she will be best remembered for her books. However, all who knew her will remember her as a wonderful, kind, gentle lady who spent her life loving all nature and mankind.

(From the presentation
(of February 12th, 1961

REPORT ON SANIBEL

"March, 1961 . . Sanibel is about 150 miles from Fort Lauderdale, and most of the driving is through the Florida Everglades - all swamp on both sides of a two-lane highway. You have to go to a place called Punta Rassa to get a ferry to Sanibel. Punta Rassa consists of a general store and the ferry dock. The ferry holds nine cars and the trip takes about 25 minutes.

Sanibel Island is beautiful and we stayed in a beautiful motel. Almost all of the motels or cabins have kitchenettes because most people go to stay for a while. There is absolutely nothing to do but fish or shell. There aren't any street lights on the island and, except for the main road, all roads are crushed shells. I have never seen so many shells - the beaches are not so much sand as layer on layer of crushed shells. I was very disappointed in the Gulf of Mexico. It was so sandy you couldn't see the bottom, and I was afraid to go in deep water. Anne went in but she couldn't see anything to dive for. Everything except for two shells were picked up dead.

The people there are very friendly. It is like a club - everybody looking for shells. One man I stopped on the beach to ask about shelling on the bay side told me shelling hadn't been good for over a month. On our way off the island we stopped at the nicest "Sea Shell Shop" and the owner told me the same thing. He told us to come back when there was a storm forecast; the wind that was blowing while we were there stirred up only the sand and covered everything up.

. . . Sanibel is really a beautiful island -- and a good place to escape the world. . ."

. . . . BARBARA BURGER

A TRIP TO THE ISLE ST. BARTHÉLEMY

by Gordon Usticke

For several months I had been hearing reports of large numbers of shells thrown up by dredging operations in the harbor of Gustavia, St. Barts.

So I asked Bill Boelcke (a nephew of the finest German flyer in World War I) to let me know when he could fly me over. . . We flew to St. Martins to drop some passengers, and then had a few more minutes flight on the St. Barts, as it is called. The landing strip has a short and awkward approach. No customs or immigration formalities on this French island, and we drove a few hundred yards to the only hotel on the island, which was called "Eden Rock" and situated on top of a rock in a really beautiful bay, surrounded by hills.

After lunch I drove down to the harbor and found an immense number of shells on the beach. The most interesting shell (to me) was a pretty pink Tellin, not found on St. Croix, possibly Tellina simplex Orbigny or Tellina lineata Turton. This also comes in a pure white form. There were enormous quantities of Divaricella dentata, and Diplodonta punctata, quite large for these, also many very large Chione cancellata marked with beautiful brown stripes and zigzags. There were many Pitar albida, mostly with yellow-brown rays, great quantities of very large blackish Bulla occidentalis, and quite a number of yellow and orange banded Murex pomum.

The Nassarius vibex (?) were prettily marked with bright red-orange bands. There were many shiny Olivas, and also tiny Olivellas. Much to my astonishment I found some large Murex recurvirostris rubidus, and was pleased to locate some of the rare Epitoniums, including Depressiscala nitidella, also a very nice Cymatium rehderi.

It was odd to find almost no cones on the island - just a very few mus, verrucosus, and one regius.

The beach was so thickly carpeted with shells that it was impossible to do other than walk on them. I kind of hated to hear the "scrunch! scrunch!" as I broke up thousands of shells.

For some reason there seems to be fewer Nerita and Tectarius on the rocks than at St. Croix, and the same applies to Limpets and Chitons.

This seems to be an almost forgotten island. I was trying to find it in a French atlas and it was not even mentioned, although it is a French possession!

If you want to see stones, all sizes, come here. I have never seen so many stones anywhere. It was a pitiful sight to see women moving stones. I imagine a good machine could do more stone moving in a day than a woman could do in a year.

The island is very rough and hilly and there are many beautiful views -- one reminded me of the Pali in Oahu. It is very dry, and seems to be partly volcanic. There are very few land shells.

Another visit to the harbor resulted in further finds, including the very

rare Cymatium krebsi.

A trip to the "Plage publique" proved an immensely rich source of minute shells, including some Euchelus guttarosea, etc. etc., and a most unusual small (5 mm.) bivalve, like nothing I have ever seen.

COMING ATTRACTIONS:

The NEW YORK SHELL CLUB is planning an AUCTION for some time next season. Naturally enough, the idea is to enrich the treasury to the extent that we may afford some special programs. In these Club auctions, members and friends donate excess or duplicate shells from their collections -- all good ones, of course, with data if at all possible. Shells, literature, etc. etc., anything of interest to shellers, all will make welcome donations. Start NOW to save your 'extras' for our auction!

UNNATURAL NATURAL HISTORY

(Ed. Note: Under this head we intend to publish from time to time, some of the strange notions about mollusks that were current among the Romans about the year 200 A. D. They were culled by our indefatigable Catherine Ahders Schmitt, from the works of one Claudius Aelianus, a Roman born at the town of Praeneste about the year 170. . . . MKJ)

"The Octopus feeds first on one thing and then on another, for it is terribly greedy and forever plotting some evil, the reason being that it is the most omnivorous of all sea-animals. The proof of this is that, should it fail to catch anything, it eats its own tentacles, and by filling its stomach so, finds a remedy for the lack of prey. Later it renews its missing limb, Nature seeming to provide this as a ready meal in times of famine.

* *

If a field, or if trees with fruit upon them are close by the sea, farmers often find that in summer Octopuses and Osmyluses have emerged from the waves, have crept up the trunks, have enveloped the branches, and are plucking the fruit. So when they have caught them they punish them. And as quittance for what the aforesaid fish have reaped they provide the owners of the pillaged fruit with a feast."

CONCERNING CONUS GLORIAMARIS

Many servicemen have discovered conchology while on duty in the Pacific area. One such has written to Nick of his frustration on realizing later that a shell offered to him in exchange (but NOT traded because he considered his own prettier) was a Conus gloriamaris!!! Now farming in Minnesota, this ex-serviceman is planning to make a trip back to that beach where the shell and many fragments of same were found. If he does locate the habitat of this rare shell - - - Wow !!

* *

Most tourists dream of Paris,
But not our Nick Katsaras - -
What he would like to see
Is a beach in New Guinea,
Full of Conus gloria maris !

NEW YORK SHELL CLUB NOTES No. 73 June-July-August 1961

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
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SEPTEMBER 10th: REGULAR MEETING. (Will the members who have prepared programs ready please get in touch with Harold Feinberg?)

SEPTEMBER 17th: AUCTION !! Nick Katsaras is going to hold another auction of fine shells at the National Arts Club, 15 Gramercy Square (at 20th Street), New York City.

SUMMER FIELD TRIPS: Those interested should register with either

Mrs. Morris Kudatsky
91-07 68th Avenue
Forest Hills 75, N. Y.

or

Mr. Albert Taxson
25 Knolls Crescent
Bronx 63, N. Y.

** See Page 3

AT OUR 100th MEETING, June 11th, 1961: We noted that the names of some of our most active members made up 40% of the first printed roster in NOTES No. 1: Cowles, D'Attilio, Feinberg, Jacobs, Jacobson, Katsaras, Tobleman, Weingartner. . . Anthony D'Attilio has a perfect attendance record. . Fred Tobleman missed only one meeting. . . Early in 1950 Fred presented the first paper before the club, on radulae. Fred gave a paper at this 100th meeting on the distribution of Colus stonei Pilsbry.

A CORRECTION: Those "UNNATURAL NATURAL HISTORY" items in NOTES #72 were searched out by Charles B. Schmitt. Catherine brought them in to us, so we thought she had found them. She has corrected us. (Anyway, she's still indefatiguable!) Charles and Catherine are in Italy now, where he is studying under a Fulbright scholarship.

NEW PUBLICATIONS:

UNIVERSAL SHELLS (Part I)

by Maxwell Smith

We quote from the announcement: ". . contains nearly 300 pages and about 2,000 separate illustrations. The Cephalopods, Gastropods, Pteropods and the Amphineura are included in the first volume, now ready. The second part will contain the Pelecypoda (bivalves) together with land and freshwater shells. . . UNIVERSAL SHELLS contains five color pages, but chiefly line drawings which are most satisfactory for identification purposes. UNIVERSAL SHELLS has been printed in a very limited edition (1100). . . ." The price is $7.50 for this first volume. Order from Maxwell Smith, P. O. Box 8295, Asheville, North Carolina. (Our recording secretary has seen a copy and reports that it is excellent.)

THE COWRY, Vol. 1, No. 2

Bill Old gives this issue an excellent rating, also, and has some copies for distribution at 80¢. Nos. 3 and 4 are progressing nicely. (Bill will have an article in the No. 4 issue.) The United States representative of "The Cowry" is: Ed Fobes, 12320S 27th Ave., Omaha 47, Nebraska.

The June, 1961 issue of "SHELLS AND THEIR NEIGHBORS" (Editor: Mrs. Mabel Sterns, P. O. Box 947, Redlands, California) carries a slightly revised copy of Anthony D'Attilio's "The Periostracum of Mollusks" which appeared in NOTES No. 65. The photographs by George Raeihle reproduced very well but were unfortunately reversed (to Mrs. Sterns' distress) showing them as all left-handed shells. The same issue also carries an article, with photographs, on the Caloosahatchee fossils, written by NYSC corresponding member Mrs. Lula B. Seikman of St. Petersburg, Florida.

In R. Tucker Abbott's new book, the paperbound "HOW TO KNOW THE AMERICAN MARINE SHELLS" (1961), these changes in names were over his "AMERICAN SEASHELLS" (1954/55), which in itself had several important changes:

#34 Astraea phoebia Roding, alias A. longispina Lamarck.
104 Charonia variegata Lamarck, formerly named nobilis Conrad.
181 Jaspidella jaspidea Gmelin, formerly placed in genus Olivella.
217 Ceratozona squalida C.B.Adams, formerly C. rugosa Sowerby, 1833, not Gray 1826.
232 Arca imbricata Brugiere, formerly Arca umbonata Lamarck.
392 Cyrtopleura costata Linne, formerly placed in the genus Barnea.

It is sad (and not a little distressing -- especially to beginners) to see so many familiar names fall by the wayside, all because of the unexampled digging diligence of a prominent student of mollusks. Wasn't there somewhere a rule (or a suggestion, or a recommendation, or, if we had our way, a tearful plea) not to alter names that have been in good and general use for a period of fifty (or was it twenty-five) years? If that rule (or suggestion etc.) were followed, many of our old friends would still be with us. Of course, the most disturbing thing in the entire matter is that THIS IS NOT THE END ! I suppose one could shed a tear for a vanished familiar name, rearrange the cells in one's brain to accomodate a newcomer, and go on bravely -- if only that were to mean that from now on, Bub, you know the name. But other more diligent diggers can come along and change things again! . . M. K. Jacobson.

CLUB EXCURSION

The Club made its annual excursion on June 10th to Orient Beach State Park, the same locality we had visited last year. About 65 members took part, 42 of them arriving in an elegant chartered bus. The weather was rainy and threatening in the morning, but when we arrived at our destination the sky had turned clear. However, collecting was made very difficult by a brisk wind blowing in strongly from the ocean. This breeze fell off considerably at about half past three, so that we had very favorable collecting conditions for two hours or so before we had to start back.

The best finds include the following:

Two specimens (one was lost again) of the elusive chiton *Chaetopleura apiculata*, found by Phil Korton and John Schwartz. The specimens were tiny, less than a quarter of an inch long, but unmistakable. Ben Katz found a live *Pandora gouldiana* washed up on the shore. A number of dead specimens of some less usual beach shells also were found: *Nassarius vibex*, *Modiolus modiolus* (single valve), *Anachis avara*. For some silly reason only one *Odostomia* and one *Mitrella lunata* were found. These are usually very abundant species. The greatest joy was caused by several live *Busycon carica* with brilliant orange-red apertures.

Crepidula fornicata appeared in such numbers that they formed an endless purplish line along the beach where they had been washed up. A curious sight was seen in large numbers of tiny barnacles settled upon *Mytilus edulis* and *Brachidontes demissus* as thickly and firmly as visiting in-laws. The infested bivalves were quite hidden under the whitish mass, leaving only a scraggly line where the two valves were slightly apart. Prognosis for a long and happy life for the burdened pelecypods was poor.

Some members wandered off toward the west, away from the park buildings, and found themselves in a completely unimproved area. Here, in addition to brightly colored *Pecten irradians* -- several of the rare brick-red color were found -- and comfortably round and smooth *Laevicardium mortoni*, they also found spots that, in the brilliant sun and surrounded by scraggly vegetation, made them think of Floridian Everglades. Among these wanderers were a number of bird watchers turned shellers, who surreptitiously engaged in their secret hobby, and a few youngsters who for obscure personal reasons collected numbers of ungainly fiddler crabs.

In a word, an excursion that had begun under the poorest circumstances weather-wise, turned out, through the agency of whatever god it is that has the welfare of the NYSC in personal charge, to be one of the most enjoyable.

. . . . M. K. JACOBSON .

** THE SUMMER FIELD TRIPS should more properly be called informal outings. They are not sponsored by the Club, and transportation is up to the individual. Because we shellers invariably head for the local beaches anyway, we try to meet at a chosen area a time or two during the summer - for sunshine and sociability as well as for shelling. Registration assures you of a card designating date and meeting place, and may help you get a "lift" if you do not have a car. . . We were rained out July 29th. Next date is Saturday, August 19th, when we're to meet at Sunken Meadow State Park, beachside of the extreme east end of the Overlook parking area, at 10:30 A. M.

SHELL OF THE MONTH

by

SAM FREED

One of the most interesting shells in my collection, and one which I always look for when hiking in the woods, is Triodopsis albolabris, commonly known as the white-lipped snail. It is about an inch and a quarter in diameter, has five to six whorls, is cream-colored, has the umbilicus entirely covered and the lip broadly reflected. The snail is solitary in its habits and roams the woods seeking out decaying logs under which it hides. This shell was formerly placed in the genus Polygyra and Helix. It is found in the eastern states of North America.

An excellent description of the shell and animal may be found in "Zoology of New York", Part V, Molluska, by James E. DeKay, published 1843. Julia E. Rogers in her shell book gives this description of the animal: "the long, slender, mottled body, the four'horns', the longest bearing the black eyes, the graceful movements and the 'moon-glittering trail' - all are sources of wonder and delight to children of all ages."

I have a special fondness for this mollusk which glides along on its mucus trail. On many occasions while hiking in the woods I would suddenly come 'face to face' with this snail sitting atop a moss covered log. Once when hunting snails in Watchung Reservation in New Jersey, I happened to notice a large standing dead tree with loose hanging bark. Out of curiosity I peered under the bark and there, to my surprise, were two white-lipped adult snails resting about seven feet above the ground! This was my first experience with "tree" snails. Usually this mollusk is found under dead leaves or rotting logs lying on the ground. I added these two handsome specimens to my collection.

Last summer, while vacationing in the Adirondacks, I found a large live white-lipped snail near an old abandoned shack high on one of the mountains. I brought the snail back to the hotel and placed it in a glass jar with some moss covered earth. For two weeks it thrived on lettuce taken from my plate in the dining room. (The guests at my table must have thought it rather strange each time I wrapped a piece of lettuce in a napkin and placed it in my pocket!)

After two weeks, on my return home, I promptly placed my live snail in a terrarium which I made from a round fish bowl. I 'borrowed' one of my wife's clear glass plates to cover the bowl so that the snail could not climb out. Some damp dirt and a few small twigs were added. My snail seemed to be quite content in his new environment. In the daytime it fed on lettuce and crawled along on its pointed foot exploring its surroundings. Towards evening the snail would dig a hole in the soft dirt and crawl in. This was done in a most interesting manner: Using the thick white lip of the shell as a wedge, the snail would start a hole, and by alternately contracting and expanding its foot, a hole large enough for the shell would be formed.

During the winter the atmosphere in the terrarium became very dry. To conserve moisture the snail went into a state of suspended animation known as estivation. This was accomplished by the formation of a transparent film of mucus over the opening of the shell. A small hole was left in the center of this cover. The shell was attached to the upper glass wall with the animal completely withdrawn inside its shell. Occasionally the animal would break this seal and come out to feed on fresh lettuce.

To further observe the habits of this interesting mollusk, I placed a small whiskey glass filled with water in the terrarium. To my surprise, the next day I found the snail sitting on the edge of the glass with its shell completely submerged in the water. At other times the snail would dip parts of its body in the water. It actually appeared to be drinking.

It is a little more than eight months since I found my snail and it appears none the worse for its confinement. My white-lipped snail is not a rare species. It is not a showy marine specimen worth a lot of money. I did not get it from a dealer or through an unusual exchange. I found my land snail while hiking in the woods.

(Presented at the NYSC)
(meeting April 9, 1961)

LAND SNAILS SURVIVE

We are happy to report that the Discus rotundatus, Triodopsis fosteri, and Cepea nemoralis are again flourishing in the Jacobsons' back yard. It was thought that they had been completely wiped out last fall when hurricane Diane pushed sea water over that area of the Rockaways to depths ranging from 18" to 3', and held it there for the period of a tide. A majority of the trees lining the streets have succumbed and all plantings suffered -- but the little snails came through. . . It would be interesting to know by what means they managed their survival.

UNNATURAL NATURAL HISTORY

(A pertinent (?) item from the writings of Aelianus - - - about 200 A. D.)

"Snails know that partridges and herons are their enemies; so they escape from them, and in places where these birds feed you would never see snails crawling about. But the snails which they call Areiones deceive and elude the aforesaid enemies by natural astuteness. Thus, they emerge from their native shells and feed without anxiety, while the birds which I mentioned swoop upon the empty shells as though they were the actual snails, but, finding nothing, throw them aside as useless and go away. But the Areiones return and pass each to its own house, having eaten their fill of food and having preserved their lives by their deceptive migration."

. . C. B. Schmitt.

OPPORTUNITY !

One of our members has a modern 5-room beach cottage on the Caribbean coast of Puerto Rico, and he is making it available for vacation rental. It is in an excellent shelling and skin diving locality. For details write to E. B. Fairweather, 2181 Madison Ave., New York 37, N. Y.

EXPEDITION TO NEW CALEDONIA

A high spot of the past season was the visit of Mr. and Mrs. George Kline of the Philadelphia Shell Club. They reported on their return expedition to New Caledonia for the Academy of Natural Sciences of Philadelphia and the Natural Science Foundation. Miss Virginia Orr of the Academy staff was the third member of the expedition party. They told of the planning and preparatory work, and with map and color slides showed us how a scientific expedition is conducted. We learned much about field work that we can apply right here at home.

New Caledonia is a mountainous island that lies about half way between New Zealand and the Hebrides, in the Greater Melanesian area. A French possession originally acquired for a penal colony, it is definitely not a tourist resort, and no encouragement is offered to would-be tourists, even though there has supposedly been no cannibalism since 1919. Mr. and Mrs. Kline and Miss Orr had the cooperation of the South Pacific Commission and the Pacific Science Board in their work, and were furnished with living quarters in the capital of Noumea, a town of about 30,000. Away from these headquarters in Noumea, accommodations were for the most part either nonexistant or primitive.

Upon arrival the group naturally headed for the nearest beach. Noumea's favorite bathing beach was considered over-collected, but the expedition members found it an excellent natural collecting area: Mrs. Kline took a live Cypraea walkeri from under a stone at the very foot of a bather, several other unusual species were found, and they had the experience of seeing Terebellum subulatum jump out of the water and land on the beach, evidence of the very strong foot of this two to two and a half inch mollusk!

The Klines showed us color slides of beautiful mountain scenery and quiet streams, gorgeous seascapes and beaches, and reef flats that made us half-groan, half-sigh with wanting to be there. The island is surrounded by fringe reefs, with the barrier reef ten miles offshore. Where fringe and barrier reefs meet, such as at Bourail, there is excellent shelling. In places there is a continuous reef flat to the surf line 1½ miles offshore. The fringing reef south of Tuoho is a spot where the habitat varies (marly sand, coral, rock, mud) and there lives a complete variety of shells.

Other than their work on the exposed reef flats, the group worked mostly in sheltered bays, as they had but only three calm days for offshore work during their two month stay. In one of these bays they found in 10 or 12 feet of water Strombus erythrinus so numerous that they brought up 500 specimens in three passes of the dredge. In a bay near the village of Voh, when they were attempting to get a complete representation of the fauna, the dredge brought up Terebra maculata of ½ lb. or more each in such quantities, crowding out other species, that they were nicknamed "Terrible maculata"!! It was during their ten-day stay at Voh that the village celebrated New Year's and a wedding on the same day, and invited the Klines and Miss Orr to the feast. They were served roast dugong, a creature which the Smithsonian would liked to have had intact. Some time later, in a French restaurant in Noumea, they recognized the escargots on their plates as the Placostylus that they had been looking for without success.

The photographs of living mollusks were extremely interesting: A Cypraea erosa with foliate mantle extended sitting on a clutch of eggs that neatly filled a cardium valve, a Cypraea staphylaea whose golden yellow mantle had finger-like extensions almost as large as the spines of the lead-pencil

urchin, a Cypraea cribraria whose red-orange mantle matched in color the spots on the shell (And we had thought that Cypraea mantles would all be pretty much alike!). They were fortunate in observing and photographing the Conus quercinus laying their egg capsules: They found 21 Conus quercinus assembled in wheel formation, with their siphonal canals all pointing toward the center, or hub, area where they were depositing the rather good sized capsules. They found and photographed a clutch of Distorsio anus' translucent eggs, laid close together in curves forming a neat geometric pattern. A most colorful photo was that of a Charonia tritonis eating a blue star. Another was of a Tonna perdix with the animal expanded to fill a 14" dishpan. On capture the Tonna perdix had disgorged a holothurian which had been cut to ribbons by the Tonna's teeth. In a muddy back bay, all the shells found were curiously malformed (and we saw photographs of some of these shells) - posing questions as to whether the chemistry of the water, the different food, or what unnamed factor is responsible for such malformation.

Although the Klines and Miss Orr were not able to cover the offshore areas as they had planned, they certainly had a very full and rewarding stay in New Caledonia last winter. We very much appreciate their sharing their experiences with us.

(D. R.)

GOLDEN COWRY:

We learn from the May issue of the Hawaiian Shell News that Mrs. Ruth Craine is the proud owner of a golden cowry which has been recorded at the Children's Museum in Honolulu. It is large -- Length 104.1 mm., Width 66.8 mm., Height 66 mm. Source: Fiji. No other details just now.

FROM THE MAIL BAG:

Kathryn Shumaker, 952 Chelsea Ave., Dayton 20, Ohio, writes that she has some very lovely live-taken Florida shells of her own collecting. Has exchanged with many foreign contacts and never had a complaint. Sends no broken and only clean shells. She would like to have some New York contacts.

"I have sold shells to various collectors in the past and could supply almost all the shells found in the Pacific. My prices are always reasonable. I do not maintain a list of shells but if anyone is interested in any particular specimen, if he writes to me with his offer I shall assist him. . Sincerely, H. M. Khan, c/o G. P. O. Counter, Suva, Fiji Islands."

"SNAIL FEVER - WORLD SCOURGE" A condensation of an article by Jim Poling appears in the August 1961 issue of the Readers' Digest. Look it up.

"SHELLS OF THE NEW YORK AREA"

Fresh off the presses! "Our" book is now available in bookstores (especially the Museum bookstore!) Previewed in our March NOTES #70, we are anxious to have one. Mr. and Mrs. Mazel will bring a number of copies to our meeting September 10th. We expect authors M. K. Jacobson and W. K. Emerson, illustrator A. D'Attilio and publishers Bernard and Ella Mazel to be kept busy writing autographs. This excellent book may also be had by mail, postpaid: Send $4.00 with your order to Argonaut Books, Larchmont, New York.

NEW YORK SHELL CLUB NOTES No. 74 Sept. 1961

Recording Sec'y
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, OCTOBER 8th, 1961, at 2:00 P. M.

PROGRAM: Discussions and color slides of the past summer's activities. (Field trips, AMU meeting.)
A presentation of color slides by Stanley Levine.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

"SHELLS OF THE NEW YORK CITY AREA"

We finally obtained copies of 'our' book at the September meeting. Mr. and Mrs. Bernard Mazel brought in a whole carton of first editions, and were host and hostess at a coffee hour during which authors M. K. Jacobson and W. K. Emerson, illustrator A. D'Attilio and designer Ella Mazel were kept busy autographing. . . Reading this book, we've discovered that there are several species that we had not known could be collected around here, and it tells us how and where. There are things in it not found in any other publication we've ever seen. We're enthusiastic! Read it and you'll see why!

dr

NEWS OF NYSC MEMBERS

Our congratulations to MATHILDE WEINGARTNER, who is now Science Curator of the Staten Island Museum, 75 Stuyvesant Place, Saint George. The department includes all natural history, and is a 'natural' for her, as we well know. She tells us that there will be a special exhibit on oceanography starting February 10th -- something we'll all want to see.

dr

. . .

NEIL F. PETERSEN received a National Science Foundation Grant for study during the summer in the field of oceanography aboard the R. V. Spencer F. Baird in connection with Scripps Institute of Oceanography of La Jolla, California. (Ed. Note: Neil previously has worked, under summer scholarship, as a research assistant at La Jolla.) His letters have reported a

most interesting summer, with time for touring and sightseeing in Honolulu and in Japan. He is now homeward bound.

Upon his return Neil will enter Hofstra College in Hempstead, New York, where he plans to major in chemistry. He hopes to later "Master" in Oceanography at Scripps Intitute of Oceanography, La Jolla, California.

. . . Bertha Petersen

. . . .

From Italy, CATHY AHDERS SCHMITT sends her best to all in the club, and writes:

August 11, 1961

"The boat trip over was relaxing but I am sorry to report that we spotted no pelagic species.

At Naples they let us get off for a few hours of sightseeing and among the most impressive memories I will have of the trip is our visit to the Aquarium there. It's open daily from 8 to 8 - most things close for long lunches, you know - and it's set in a beautiful park by the edge of the bay. There is a museum of specimens in alcohol that is free but it costs about fifty cents (300 Lire) to see the live exhibits. For any shell collector on tour it's well worth it. In one tank, all-in-together-boys, how-do-you-like-the-weather-boys, were Dolium galea, Cassidaria echinophora, Murex trunculus, Mytilus galloprovincialis, Aplysia limacina, Murex brandaris, Loligo vulgaris, Pinna nobilis, Purpura haemostoma and Tritonium nodiferum (the names are the Aquarium's, don't blame me if they're out of date) and not just one of each. The tank was swarming with shells. The Aquarium is smaller than the one at Coney Island, but to me it was impressive in that it had salt water specimens you rarely see -- octopi, several kinds, live corals, live sponges, live fan worms, not to mention the fish - also live medusae.

Two weeks ago we were up to San Miniato al Monte here in Florence when it began to rain -- the first, I understand, since May -- and after an hour of seeing art works in the church, we came out to find many many Helix of, I would say, three species. I have them estivating among the pots here and hope to report on observations soon.

So far my conchological library of Italian shells is practically non-existent except for one work, "La Fauna", printed by Touring Club Italiano. It is very good on shells considering it covers all Italian wildlife. I'll try to get permission to send you my personal translation of the sections on shells."

. . . .

CONGRATULATIONS

to the Schmitts on the happy arrival of John Henry, and
to the Levines on the arrival of their joyous Jennifer!

And again to the Levines for having a natural sheller in their Jamey. The tot has already collected a shell, found on the New Jersey coast, which turns out to be Thais ascensionensis, normally from the West African area!

AN INFORMAL FIELD TRIP is proposed for Saturday, September 23rd, to Bayville, Long Island. There will be a low tide of -0.9 at 5:08. The working area will be on the bars and around the rocks at Centre Island. The shellers should plan to be there around 3:30 P. M.

SHELLING IN THE SAN JUAN ISLANDS WITH THE NORTHWEST SHELL CLUB

by William E. Old

One of the youngest and certainly one of the most dynamic shell clubs in the United States is the Northwest Shell Club of the Seattle area. It celebrates its first year as a club this month. (NYSC member Mrs. Dorma Coley is a charter member of the Northwest Shell Club.) When I was in Washington State last June, the club had a membership of 109 regular and corresponding members. It was an honor to be elected member #110, and the first honorary member of the club. I was there to take part in their big event of the year -- a week-long field trip to the San Juan Islands in Puget Sound. The trip was held the week of June 25th, when the tides reached as low as -2.8.

We had very few shells with accurate data from the Pacific Northwest in the collection at the American Museum of Natural History. It was decided that it would be a good idea for me to participate in the field trip, as we wished to build up a really representative collection of the mollusks of the Washington area. We desired material with accurate locality and ecological information. In addition, I would also collect other forms of marine invertebrates, such as echinoderms and crustaceans.

As I also planned to collect in areas adjacent to Washington State, I wrote and obtained collecting permits for Washington, Oregon and British Columbia. Collecting equipment, flattened cartons and other gear was sent out to the coast in advance. I am indebted to Mr. and Mrs. Coley for their suggestion that I take part in the field trip, and for my transportation across country.

. . . . .

The beautiful San Juan Islands are located in the western part of Puget Sound. San Juan Island is the largest island of the group, and Friday Harbor, with a population of 900, is the largest town. The island is reached by a ferry running from Anacortes, Washington to Sydney, British Columbia.

For two hours, the ferry threads its way through the channels separating the high islands. Many of the islands with striking red-barked madrone trees growing on top of the rocky shoreward cliffs are decidedly reminiscent of southern Japan.

The members of the Northwest Shell Club arrived at Lonesome Cove resort on June 25th. Camping accommodations in rustic log cabins were set up dormitory style. Many of us went immediately to the rocky beach. The area was exceedingly rich in marine life. Large purple starfish lay about. Fusitriton oregonensis were engaged in laying egg capsules on the vertical sides of rocks. Purple sea urchins were abundant. Chitons were present in great numbers. Cryptochiton stelleri were lying in crevices or attached to the sides of rocks. Often there would be half a dozen Katharina tunicata on a stone the size of a football. The lovely Tonicella lineata were present in great numbers, as were Mopalia muscosa and many other species.

As I was particularly interested in Acmaea, I concentrated on collecting a series. Acmaea testudinalis scutum, persona, pelta, and digitalis were practically everywhere. Near the low tide level were large Diodora aspera. On Monday (the 26th) during a minus tide I collected large Acmaea mitra. Haliotis kamtschatkana was also taken. Trichotropis cancellata and Calliostoma ligatum were abundant.

Other participants arrived, among them well-known naturalist Mr. Walter

Eyerdam of Seattle, noted collectors Mr. and Mrs. Phil Spicer of Centralia, Washington and Mrs. Lela Griffith of Egmont, B. C. who is writing a book on the intertidal gastropods of the area. Several of the NWSC members brought boxes of shells as donations to the collections of the American Museum. And during the field trip many of the club members continually brought me odd specimens of mollusks, fish, crabs or insects they found. In this way, several species I had not found were added to the collection.

The trip was marked by an air of gaiety and camaraderie. It was customary for collectors to give voice to song while preparing their catch (a forthcoming album might well be entitled "Music to Clean Shells By"). "This is really a talented group!" observed President Tom Rice. Not only could shellers be heard singing songs in English, but in Spanish, French, German, Russian, Japanese, Korean, American Indian, or Eskimo. (The September '61 issue of the "Northwest Shell News" credits this one to Bill Old: To the tune of "Sing a Song of Sixpence" ---)

"Sing a song of San Juan,
A bucket full of slime.
Four and twenty persons
A-shelling all the time.
When the tide came in
The shells began to sing -
'At last we're safe from those guys
Until this time next spring!'"

The week ended all too quickly . . . I am indebted to the members of the Northwest Shell Club for their assistance in making my trip such a success. On arrival home I found, in addition to my own seven packages, thirteen parcels of shells from Northwest Shell Club members.

Upon unpacking and sorting, I find that we have some 300 lots of specimens to add to the museum collection.

THE 28th ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION

Held in Washington, D. C., June 20-23, the Smithsonian Institution was host to approximately 150 delegates from this country and Canada. As they arrived in town the lobby of the Hotel Raleigh took on the atmosphere of "Old Home Week". 18 were there from our New York group, and we met several of our corresponding members that we had known by name only.

The sessions were held in the beautiful Natural History Building. The staff of the Smithsonian had devised an excellent way of leading us to the meeting room: In the main aisle of the hall, opposite the door to the room, a large Tridacna had the effect of a magnet. In the adjoining areas were cases holding a special exhibit of shells both local and foreign, - one case held Volutes from Dr. Alsaker's famous collection. This was one of the two most thoroughly covered exhibits in the museum during our stay, the other one being the new Paleontological exhibit on the floor above. This described the work being done in the field, showed specimens of mollusks that have to be seen to be believed, and had displays depicting life at the bottom of an ancient sea. Even if you are 'just passing through' Washington, spare an hour or so to see this exhibit!

There were 28 presentations during the three days of sessions, covering a very wide range - marine, land and fresh water - exploration, research and

general study - in both tropic and temperate zones. Most of the talks were accompanied by color slides. There were two motion pictures. We'll give you some notes on them in later issues of these NOTES.

It was not all study -- Tuesday evening we were royally entertained by Mr. and Mrs. A. Lothrop Luttrell at a garden party at their estate in Rockville, Maryland. Informality was the rule, new acquaintances were made, common interests discovered. . . Thursday evening a cocktail hour and superb banquet at the Columbia Country Club was a rich finish to the days of formal sessions.

Scientists Cliffs on Chesapeake Bay was the well-chosen site for Friday's field trip. There was a wooded area for lunch and a social hour. The layers of Miocene shells in the cliffs were accessible from the beach. A few each of recent land and marine, and several fossil species were collected before a hard shower put a premature end to the field trip.

The Smithsonian's staff was kept very busy during the entire week of the Meeting, but worked so effectively that the uninitiated were not conscious of their labors. Their cordiality and consideration, and that of the members of the National Capital Shell Club and the Greater Baltimore Shell Club, made this a most happy meeting.

Dr. William K. Emerson will be the A. M. U. president next year, and author and lecturer M. K. Jacobson will be in charge of publications. We understand that the 1962 meeting will be held in Florida - on the west coast. Details you shall have when we get them!

Of our many notes from the meeting, we give you here one of immediate interest to NYSC shellers:

During a question period we asked Mr. John B. Glude of the Bureau of Commercial Fisheries about the present questionable health of our Long Island shellfish beds -- as, after all, they are not so far from the areas of known contamination and those closed by the Department of Health last summer. He advised us that cooking the shellfish should remove any danger of hepatitis infection, that the cases of infection on record involve raw shellfish only. So -- if you collect for your own use in areas that are in the least suspect, cook up a chowder or stew instead of having your catch of shellfish raw or steamed!

. . . D. Raeihle

MAXWELL SMITH

Maxwell Smith, D. Sc., well known author of "East Coast Marine Shells", "Universal Shells" and many other books, died last Tuesday night, September 12th, at a hospital in Asheville, North Carolina. He was 73 years of age. We mourn his passing.

In 1907 Maxwell Smith was a member of the Brooklyn Conchological Club, and was one of a committee formed by Silas Wheat to investigate the feasibility of forming an association of American malacologists. This was the beginning that eventually resulted in the formation of the American Malacological Union, of which he was a charter member.

Interment will be at Winter Park, Florida, on Monday, September 18th.

Some corrections and additions to "REDISCOVERED OR NEW LOCALITIES FOR CONUS" (NOTES No. 69)

by Anthony D'Attilio

1. Conus sp. (close to acutangulus Lamarck) Batangas Bay, Batangas. In an earlier number of the NOTES an attempt was made to suggest some differences between this species and Conus sowerbyi Reeve. To correct a mistaken impression, a further note of clarification follows:

The shell is easily recognized by the row of heavy beads encircling the high spire. The shell has about ten whorls not including the three of the nucleus. Of seven specimens examined the largest measures 28 mm. The body whorl is deeply cut into by encircling grooves. It is, in color, essentially a brown shell with some scattered white spots and elongate white blotches, arranged mostly on the spire and centrally on the body whorl.

Whether this species is the same as Conus eugrammatus Bartsch and Rehder from Hawaii remains in question. On shell features alone there are no obvious differences. A study of the soft parts may be more revealing.

2. Conus alabaster Reeve; Carigara Bay, Leyte is the correct locality of a single specimen measuring 41 mm. Trawled in from 10 to 30 fathoms.

5. Conus aurisiacus Linne: A "live" collected specimen with the periostracum still adhering measures 50 mm.

14. Conus praefectus Hwass 1792; Batangas Bay, Batangas. An earlier name may be Conus ochroleucus Gmelin 1791. The comments following this species in No. 69 of the NOTES became inadvertently mixed up and a necessary correction follows:

The smooth body whorl is covered by distant grooves mostly over the lower half. The raised spire is concave in outline, striated, and the sutures are well defined. The color of the body whorl may consist of (a) two bands of ochrish color; (b) no bands; (c) the shell may be vaguely banded here and there. Darker axial tones parallel to the lip are sometimes apparent, and these continue much darker onto the spire. The aperture is apricot colored adjacent to a broad white margin.

18. Conus scalptus Reeve: Cape Calavite, Mindoro; Lusong, near Bataan; Bataan, Zamboanga City coast line. Nine specimens studied. In 1843 Reeve described Conus scalptus from an unknown locality. Neither Tryon nor Weinkauff had anything to add regarding this cone in their respective monographs some years later.

Shells referrable to this species recently received from the Philippines have led to an examination of a number of other related shells. These latter are larger than the figure in Reeve's Iconica and had previously proven difficult of assignment. Upon further study with a series of nine specimens, the largest 35 mm in size, the conclusion was reached that integration seemed evident, with the smaller shells answering more precisely to Reeve's figure and description.

Inasmuch as Reeve frequently based his descriptions on a single specimen rather than species characters, some additional notes are offered following the citation as it appears in the Iconica (in quotes):

"Conus scalptus Reeve, Proc. Zool. Society 1843. The 'Scratched Cone':

"Shell turbinate, rather solid, polished, grooved towards the base; whitish, encircled with a number of rarely interrupted reddish thread-like lines; spire elevated, spirally striated, variegated with red; apex sharp."

Supplementary description: Shell bluish white; painting of interrupted reddish thread-like lines, sometimes disappearing, sometimes replaced by coalescing or separated brown blotches. In addition, in mature specimens there are two much less ornamented, lighter bands on the body whorl. On mature specimens aperture usually pinkish violet with a broad white margin, coloring of aperture deepest near the white margin.

Remarks: The difficulty in identification in many cases is due to the fact that the descriptions in the literature are frequently based on immature shells, on single specimens, and, in some of the older works, certainly on beach worn or artificially polished shells. It is very likely there are for this species, in addition, some synonyms probably based upon the mature shell. At this time no other valid name is known to this writer.

29. Conus sulcatus, Hwass variety ? A variety of Conus sulcatus is, according to Tryon, Conus undulatus Sowerby. In this form the middle and lower part is "distantly, narrowly grooved, upper part smooth". In all other respects; form, color and spire, it is similar to typical sulcatus. This subspecies or form is found at Mogueda Bay. There is, without doubt, complete integration with typical sulcatus in any large series. The plain solid color on all specimens and the variety is yellow ochre. It may be noted that large specimens of this species in old collections are all white.

30. Conus sowerbii Reeve: Mogueda Bay, Samar. Corrected by Sowerby 1866 in the "Thesaurus" to Conus sowerbyi Reeve. Five specimens studied, the largest of which is 44 mm.

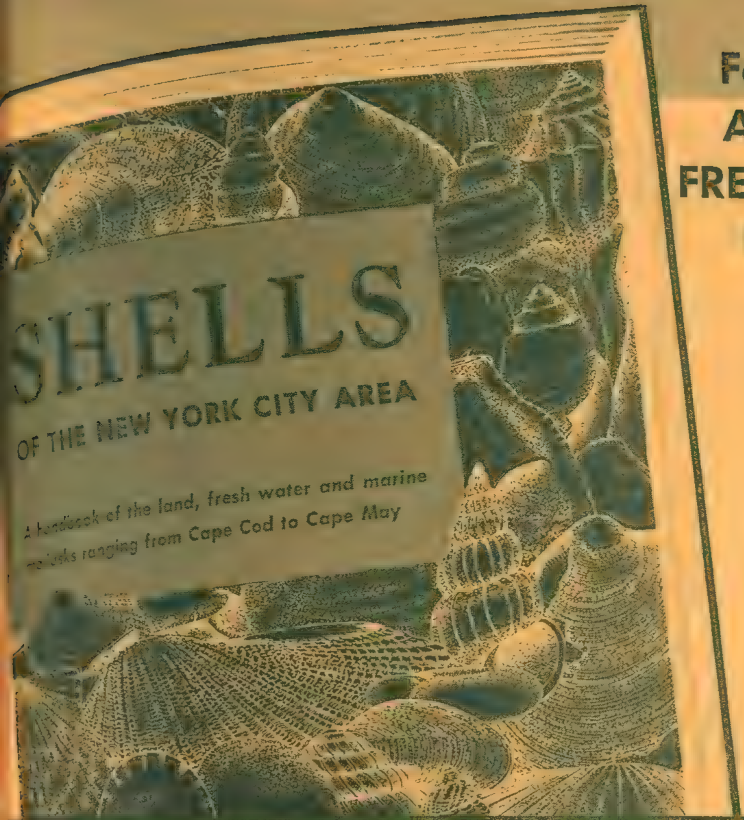
This is a striking specimen with its high spire, sulcate surface and acute shoulder. A well preserved specimen shows the following characters:

There are one and one-half polished, white nuclear whorls, three post-nuclear whorls are slightly beaded, the remaining shell has eight whorls. The first four or five of these eight whorls are cancellate, the remaining predominately spirally striate. The body whorl is deeply grooved throughout, the channeled portions are crossed by growth striae. Height of spire alone, in a specimen of 44 mm, is 14 mm.

The painting consists of brown spots, usually on the raised cords but sometimes increasing in size by coalescing from cord to cord and forming, usually, three darker bands on the white shell. The spire has brown markings mostly arranged axially. The shoulder is sharply carinate and this carinate edge continues as the lower edge, defining each whorl.

WE ARE CONCERNED about the well-being of our A. M. U. president, Dr. Thomas Pulley, in Houston and our other friends of the Coastal Bend and San Antonio Shell Clubs. We can only hope that they all came safely through hurricane "Carla" - one of the worst storms in history. We would greatly appreciate having some news of them.

dr


SHELLS
OF THE NEW YORK CITY AREA
A handbook of the land, fresh water and marine mollusks ranging from Cape Cod to Cape May

R. TUCKER ABBOTT ***Chairman, Dept. of Mollusks***
Academy of Natural Sciences of Philadelphia

There is as much natural history to be observed in the parks, backyards and nearby beaches of New York City as there is in almost any other part of our country. If you live in one of the cities of northeastern United States, or are bored with the set patterns of Suburbia, you will be glad that you opened the covers of this entertaining shell book. Read it, and start collecting shells!

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The American Museum of Natural History, New York

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Museum of Comparative Zoology, Harvard University

Emerson and Jacobson are to be congratulated most highly for their production of this book covering the land, fresh-water and marine mollusks of the New York area. Nothing on this subject has appeared for this area in more than one hundred years. It is timely, as it is one more effort to meet the present challenge of interest in the biological sciences.

HARALD A. REHDER ***Curator, Division of Mollusks***
U. S. National Museum, Smithsonian Institution,

This volume will be heartily welcomed by all shell collectors in the Middle Atlantic states, and by professional malacologists who will find it a useful reference book that they can confidently recommend to those seeking information on the mollusks of this region.

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The first shell book in over 100 years devoted exclusively to the New York area, this handbook for students, campers, nature lovers, collectors and scientists provides a comprehensive guide to the neglected inhabitants of the local molluscan world.

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The species included actually range all the way from Cape Cod to Cape May—making this guide of interest for the entire northeastern region—but all can be found within a radius of 50 miles from Times Square, and across the length and breadth of Long Island.

Several unique features enhance the usefulness of this handbook:

1—A map of the area, keyed to the principal collecting localities.

2—A listing of all the shells to be found in each major collecting area, cross-referenced to the pages on which the shells are described.

3—A listing of all the shells according to their scientific arrangement by class and subclass, order and suborder, superfamily, family and subfamily, also cross-referenced to the text of the book.

Another feature that will be welcomed by collectors is the fact that the illustration for every shell is located within one page of its description.

The combination of an informal and entertaining style with authoritative technical data makes this book a "must" for both the beginning nature student and the advanced collector or malacologist.

THE AUTHORS

MORRIS K. JACOBSON is a former president of the New York Shell Club, lecturer in shells in the adult education program of The American Museum of Natural History, author of many scientific papers.

WILLIAM K. EMERSON is a professional malacologist, Chairman, Dept. of Living Invertebrates of The American Museum of Natural History, in charge of nearly a million scientifically arranged shell specimens and author of more than 40 scientific papers.

ANTHONY D'ATTILIO is a noted fine artist in glass engraving and sculpture who is also a "shell-shocked" collector.

Foreword by R. TUCKER ABBOTT **$4.00**

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President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in
Room 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, NOVEMBER 12th, 1961, at 2:00 P. M.
PROGRAM (Subject to change): Some color slides by Stanley Levine.
An informative discourse on slugs, by Harold Feinberg.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $2 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $1 per year. These figures are in effect until December 31, 1961. Beginning January 1, 1962 dues for full membership will be $3 per year, with $1 additional for family memberships. Dues for corresponding membership will be $2 per year. Items and articles for publication are welcomed by the NOTES, and should be sent to the EDITOR. Notify CORRES. SEC'Y of any change in address.

NOTICE:

At our October meeting it was brought to the members' attention that, in spite of economies, the Club is pinched by rising prices all along the line. In order to continue with these NOTES on a regular basis and to have the occasional special program, it was deemed necessary to raise our dues. After discussion it was moved, seconded and voted that, beginning January 1, 1962, yearly dues for full membership will be $3.00, with $1.00 additional for family memberships, and dues for corresponding membership will be $2.00 per year.

HELP WANTED !

It was announced that the Department of Living Invertebrates of the American Museum of Natural History is interested in volunteer help on all levels from working with shell identification, typing labels and cataloguing to just plain cleaning up. It was proposed and unanimously approved that we of the New York Shell Club lend a hand. Bill Old, who is a member of the Museum staff, was appointed coordinator of the program. All interested in volunteering their help should contact Bill before coming to the Museum ready to work.

THE GRAPEVINE

spreads news in a manner that frequently amazes us with its efficiency -- but it is not good with exact addresses. Please, won't YOU tell us about it when you have a change of address?

LOCAL FIELD WORK COMMITTEE

At our September 10th meeting the members gave their unanimous approval to a proposal to establish a permanent Field Work Committee to keep accurate and detailed records of our local molluscan fauna. Serving under Chairman Harold Feinberg will be committee members Mrs. Jerry Steele, Mrs. Grace McDougall and Mr. Stanley Sokoloff. They would appreciate your sending them records of the shells you find locally.

Then a bit of history came to light: M. K. Jacobson told us that this was a reactivation of a project conceived many years ago. He referred to this paragraph from NEW YORK SHELL CLUB NOTES #2, January, 1950: "Mrs. Freas' valuable paper ('Mollusks of New York City Parks') serves to bring to the general notice a project that the New York Shell Club has set for itself, namely a revision of the molluscan fauna of New York City and vicinity. We plan also a detailed listing of all verified localities." Members did contribute many papers of data, then, as with so many projects, interest seemed to drift away as with an out-going tide. Karl still has those early papers in his custody, and suggested that they may offer some interesting "then and now" checks. He was "drafted" and readily agreed to work with the committee.

All of which made us realize that, although the Club has had annual field trips to Bayville, we do not have a checklist of that area other than one 'borrowed' from Sheffield Island (See Gordon Usticke's article in NOTES #53). On an informal outing September 16th, three days after hurricane 'Carla' had passed off Montauk, NYSC members listed 30 species, 21 of them found alive. At and in the edge of the water there were hundreds of the Mulinia lateralis Say, not usually found in quantity, and thousands of juvenile Mya arenaria Linne. The most exciting find was a live Mercenaria mercenaria, form notata Say, strongly and beautifully marked. Next in excitement were a few Lyonsia hyalina Conrad with the animal, found under beach drift. The list of beach specimens included two species we usually find alive -- Polinices and Acmaea. The committee is working on a checklist. Remember, you can help with this and other checklists by sending them records of the shells you find.

CONCERNING HURRICANE 'CARLA' IN TEXAS

We were very glad to receive news from Mrs. Fred Speers of the Coastal Bend Shell Club, Corpus Christi, Texas (and also a NYSC corresponding member) who kindly responded to our inquiry with a most descriptive letter. She writes: "Speaking for the Coastal Bend Shell Club, all are safe and suffered little damage to property. All's well with San Antonio Club members too, I believe, and I've received one letter from a shelling friend in Houston saying they had escaped serious damage. I hope this applies to Dr. Pulley also."

(As soon as one of the causeways was passable, Mrs. Speers visited Mustang and Padre Islands. She reports:) "The damage to low areas at Port Aransas was severe, but happily most residences were left intact, though water soaked. Our beaches are greatly changed -- landmarks which once marked the back of the beach are now at the water's edge, and many homes that were once tucked snugly behind dunes are now on the open beach. There were lots of household goods and dead animals in debris on the beaches. . .

Talked to a few who got to the island by boat immediately following the

storm. They reported gathering live and half-dead shells by the bushel. However, the take was generally confined to a few species.

Species reported by most were Busycon spiratum Lam., not generally common on our beaches, but several hundred taken after 'Carla'. Tellina alternata variety tayloriana Say and Dosinia discus Reeve in the thousands, Mercenaria mercenaria campechiensis Gmelin and some M. m. texana Dall, Busycon contrarium Conrad, Oliva sayana Ravenel, Polinices duplicatus Say, Phalium granulatum Born, Anadara ovalis Brugiere, Anadara brasiliana Lam., Strombus pugilus alatus Gmelin, Murex fulvescens Sowerby. These species just about made up the entire crop in this area. The Phalium, Strombus and Murex were not common here. About the only exciting finds I've heard of were two live Terebra flammea taken at Port Isabelle.

At the time I heard from Houston the Galveston beach was strictly quarantined, so have no idea how shelling was. As there were a number of shell shops on the beach in that area, we may hear some pretty exotic reports."

SOME NATURAL ENEMIES OF MYA ARENARIA

At the A. M. U. meeting last June, Mr. John B. Glude spoke on the molluscan research being done by the Bureau of Commercial Fisheries. One project involves the protection of New England beds of Mya arenaria, our steamer clam, from the common predators which include the green crab and Urosalpinx, the oyster drill. After much experimentation a barrier has been developed that can be positioned around the beds. It consists of a low fence of plastic screening with a strip of copper along its upper edge. As the top of the fence is smooth and outcurving, the crabs can't get past the overhang. Copper ions from the strip repel the Urosalpinx. Chemicals are also used to some extent, one in particular causes the bodies of the Urosalpinx to distend so that they cannot withdraw into their shells, leaving them easy prey to other predators.

dr

In addition to the dangers that come from Urosalpinx and other large enemies, Mya arenaria has also to contend with smaller parasites. Odostomia has been seen attached to the highly extensible siphons of the soft clam, where it undoubtedly lives by penetrating the epidermis and sucking up the juices. In all likelihood, however, this is merely an annoyance, like fleas and body lice, rather than a matter of imminent peril.

mkj

THE 29th ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION

Dr. William K. Emerson, A. M. U. president, has accepted for the Union the invitation of the St. Petersburg Shell Club to hold the 1962 meeting in Florida. We have these details:

The dates: Tuesday, July 31st through Friday, August 3rd.
The place: Florida Presbyterian College campus, St. Petersburg, Florida.
Accommodations: Dormitory rates, on the basis of 2 to 4 in a room, $5.00 per person per day including meals.

All accommodations (dormitory, auditorium, etc.) are air-conditioned.

Sessions will be held in the school auditorium. A field trip is planned.

For shelling, St. Petersburg has the marine waters of the Gulf of Mexico and several bays, and land shelling that includes Caloosahatchee fossils. Let's go!

THE KATSARAS AUCTION

Nick's auction September 17th was a success all around -- Nick acquired space for new shells and buyers filled gaps in their collections. Everyone admired the display of glamorous, unusual and rare specimens. Many bought shells not on their shopping list, just because they couldn't resist them. Some of this impulse buying was directly traceable to the skill of auctioneer Tony D'Attilio: As he offered each shell his smile and attitude seemed to say "This is a beautiful shell -- just what you've been waiting for!"

Color and condition guided the prices, rather than rarity of species. The 8¼" Tibia fusus was every bit as advertised, a superb specimen that finally went, after some tortured bidding, for $34. On the other hand, a lot, or group, of Thais lamellosa and Turritella terebra brought a price that averaged 62½¢ per shell. So there you have the high and the low of it.

The Xenophora solaris was very unusual. Nick told us that it was re-discovered on Tucker Abbott's expedition to the Philippines, having been located after the expedition gave up searching for Conus gloriamaris. The Voluta bednalli caused a stir and general buzz of conversation before the auctioneer could say a word. It was a beautiful specimen, worthy of a pedestal, but the requested starting bid of $100 was too rich for anyone present. There was a fat 23" Megalotractus proboscidiferous and a 1¼" Conus vittatus. There was a Cypraea mappa unusual for its blush pink underside and a glossy fossil Cypraea problematica.

The atmosphere was social, and as the afternoon wore on friendly banter kept us relaxed. Commenting on a shell's rarity, Nick a few times had remarked "They don't grow on trees, you know!" He heard a full chorus of contradictions as soon as the Papuina pulcherima was taken up. The long session was broken by an intermission, giving us a chance to stretch our legs and have a glass of punch while we compared notes. At the end of the afternoon, Nick said "IF I have another auction . . " (No comment.)

dr

ARGONAUTA FROM LONG ISLAND:

Mrs. Howard H. Myers of Amagansett, L. I., submitted a specimen shell to the American Museum of Natural History. Her letter read "This part of a shell was found off Montauk, L. I., in about 60 fathoms of water by a 'dragger'. Will you please identify it for me?" The fragment was of an Argonauta argo L. This is the first record I can recall of a Paper Nautilus being found locally. C. W. Johnson gives the range as "Massachusetts to Florida, 0 to 1917 fathoms". Binney-Gould 1870 did not record it from Massachusetts at that date.

. . . Bill Old

(Note to above. Nearby New Jersey records: One live specimen Long Branch August 1876. A fresh specimen at Point Pleasant in 1876 and another at Long Branch in 1881. dr)

DISTINGUISHED VISITORS:

Dr. Donald F. McMichael of the Australian Museum, Sydney, and Dr. Arthur Wm. Baden Powell of the Auckland Museum and Institute, New Zealand, made brief visits to our AMNH last month. Dr. Powell is writing a paper on Turridae for 'Indo-Pacific Mollusca'. He expects to make another visit to the AMNH before returning home. We hope to have the opportunity to meet him. Dr. McMichael is now on his way home after spending a month in study at our museums. He is working on Voluta for 'Indo-Pacific Mollusca.'

SHELLS WE'D LIKE TO COLLECT FROM THE NEW YORK CITY AREA

by M. K. Jacobson

A few recent experiences with shallow water dredging (to about a 30 foot depth) in Northport Harbor and off Pelham in the Sound, has given us such a different picture of what can be found in the bays of the North Shore of Long Island, that we make bold to mention a few species that, according to older lists, are "common" or "not uncommon" in these waters, and which we have never seen, let alone collected.

As a result of our dredging we found out, for instance, that Yoldia limatula is not at all a rare shell, but insists on living and dying in gooey mud in about 10 or 20 feet of water, at a good distance from shore. A pure shore collector will never know this. The same applies to Lyonsia hyalina (which seems to prefer a hard bottom) and Nucula proxima, which lives comfortably next to Yoldia. We also found Eupleura caudata with long, beautifully curved siphonal canals, forms we have never suspected existed. (Incidentally, these specimens explain the trivial name of the shell better, for "caudata" means "tailed" -- and for the first time we saw what a really handsome tail it has.)

Y. limatula

L. hyalina

N. proxima

At any rate, this experience revives our hope that some other elusive species might still turn up. Some of the most prominent are the following:

E. caudata

Caecum pulchellum Stimpson: Sanderson Smith (1862) says that he found "several hundred specimens on fine sand from 10 fathoms (60 feet) on broken shells". He also claimed he found two specimens of Caecum cooperi (a new species) in 4 to 5 fathoms in the northern part of Gardiners Bay. We should like very much to find this small species.

Caecum

Stylifer stimpsoni Verrill: This shell is said to live among the spines of starfish and sea urchins (Strongylocentrotus drobachiensis). It is a tiny white parasitic mollusk, which was first found by Stimpson on the spines of starfish in New York Harbor. We hate to think of all the hundreds of starfish we subjected to minute and extensive examination without results.

Stylifer
stimpsoni

Crassinella
mactracea

Crassinella mactracea Lindsley: This is one of the most infuriating of unfound species. Abbott (AMERICAN SEASHELLS) calls it "common from just offshore to 30 fathoms", and locates it from Massachusetts Bay to Long Island. Austin A. Apgar (1891), calling the shell Eriphyla lunulata Conrad, says calmly: "Cape Cod and south. Common." However, he confused two species, C. lunulata, a species from North Carolina to Florida, and the true, more northern C. mactracea. Maxwell Smith in his EAST COAST SHELLS however, following Johnson, confused the two the other way by calling them both C. mactracea, located

them from Massachusetts to Florida and sank them all in 3 to 100 fathoms. Gould in his classic INVERTEBRATA OF MASSACHUSETTS, calling the shell Gouldia mactracea, informs us that: "This shell was described from a single valve found by Reverend James H. Lindsley at Stonington, Connecticut, in the stomach of a haddock." Here is a flat contradiction to the "common" of the first two authors. Among the actual New York City area records of the shell, we find Balch, LIST OF MARINE MOLLUSCA OF COLDSPRING HARBOR (1899) who, calling the shell Eriphyla lunulata with Gouldia mactracea as a synonym, reported: "One dead specimen, fairly fresh, and several much worn valves from hard bottom in 4 fathoms." Again not "common". However, Sanderson Smith in 1859 lists Astarte mactracea, under which name, incidentally, Lindsley first described the shell, as "common, dead."

In 1862 Sanderson Smith again reported it from 5 to 10 fathoms in Gardiners Bay, where he found it in pairs and single valves, "common" again, but never alive. In summary, this appears to be a species confined, like several others in our area, to the eastern end of Long Island, where it is either common or not common, dead or not dead, in from just offshore or 3 fathoms to 30 or 100. At any rate we never found it and wish someone would. The shell looks a little like a juvenile Venus mercenaria, but the ridges, instead of being thin and blade-like as in the Venus, are wide and rounded.

Diplothyra smithii Tryon: This is a boring species related to Martesia. According to Dr. Ruth Turner in JOHNSONIA (No. 34, 1955), this "is the species usually found boring into oysters," and "may on occasion be very abundant in specimens of oysters." Since the type locality is our own Staten Island, the Club once set out to find it, but succeeded in finding at Ward Point only oyster shells that seemed to have been bored by this shell. It should be found in living oysters somewhere on Staten Island.

Diplothyra smithii

Epitonium championi Clench and Turner: This handsome wentletrap was first described in JOHNSONIA in 1952 and specimens were found in Noyack Bay, Southampton, Long Island, by the indefatigable collector Roy Latham. Clench and Turner further say that the species is "rare and local in its distribution." It has been found in the intertidal area and in depths up to 22 fathoms. The shell is well described in Johnsonia.

E. championi

This short list must suffice for the moment, but as other species occur to us, we reserve the right to extend it.

All illustrations are in natural size except for the Caecum and Stylifer, which are very greatly enlarged. . . A. D'A.)

NEW YORK SHELL CLUB NOTES No. 76 Nov. 1961

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
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ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, DECEMBER 10th, 1961, at 2:00 P. M.
PROGRAM: Pecten Industry on the Niantic River
By: Dr. Walter Jacobs
Illustrated Talk on Gaspe Penisula - By: Karl Jacobson

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TWO NEW NUMBERS OF "INDO-PACIFIC MOLLUSCA"

Vol. 1, #3, THE GENUS LAMBIS, by R. Tucker Abbott:

Having thoroughly studied this entire group, Dr. Abbott has retained all species in the genus LAMBIS with three subgenera, comprising in all nine species and four subspecies. It is a beautiful presentation well illustrated in color in addition to black and white.

Vol. 1, #4, THE FAMILY PINNIDAE, by Joseph Rosewater:

The author of this monograph has gathered together the many names used for the PINNIDAE and reduced them to twenty species and subspecies. This was no small task considering that, for instance, a number of newly described Japanese forms are shown to fall well within the range of variation of some of the widespread Indo-Pacific species. Dr. Rosewater lists these genera: Pinna, Atrina and Streptopinna. There is much important data on ecology and distribution, and a review of the fossil record.

• • • •

Although completely scientific, and indispensable for study, these monographs are a joy for the amateur collector. Such an important work should have the active support of all collectors -- why not send Dr. Abbott your subscription NOW !

An Incident Described In " ENCOUNTERS WITH ANIMALS "
by Gerald Durrel

"Once during my lunch break I witnessed an extraordinary comedy that was performed almost, I felt, for my special benefit. On the tree trunk where I was sitting, not six feet away, out of a tangle of thick undergrowth, up over the bark of the trunk, there glided slowly and laboriously and very regally a giant land snail, the size of an apple. I watched it as I ate, fascinated by the way the snail's body glided over the bark, apparently without any muscular effort whatever, and the way its horns with the round, rather surprised eyes on top, twisted this way and that as it picked its route through the miniature landscape of toadstools and moss.

Suddenly I realised that as the snail was making its slow and rather vague progress along the trunk it was leaving behind it the usual glistening trail, and this trail was being followed by one of the most ferocious and bloodthirsty animals, for its size, to be found in the West African forest. The twining convolvulus was thrust aside, and out on to the log strutted a tiny creature as long as a cigarette, clad in jet-black fur and with a long slender nose that it kept glued to the snail's track, like a miniature black hound. It was one of the forest's shrews, whose courage is incredible and whose appetite is prodigious and insatiable. If anything lives to eat, this forest shrew does. They will even in a moment of peckishness think nothing of eating one another.

Chittering to himself, the shrew trotted rapidly after the snail and very soon overtook it. Uttering a high-pitched squeak, it flung itself on that portion of the snail which protruded from the rear of the shell and sank its teeth into it. The snail, finding itself so suddenly and unceremoniously attacked from the rear, did the only possible thing and drew its body rapidly back inside its shell. This movement was performed so swiftly, and the muscular contraction of the snail was so strong, that as the tail disappeared inside the shell the shrew's face was banged against it and his grip was broken. The shell, having now nothing to balance it, fell on its side, and the shrew, screaming with frustration, rushed forward and plunged his head into the interior, in an effort to retrieve the retreating mollusc. However, the snail was prepared for this attack and as soon as the shrew's head was pushed into the opening of the shell it was greeted by a sudden fountain of greenish-white froth that bubbled out and enveloped nose and head. The shrew leapt back with surprise, knocking against the shell as it did so. The snail teetered for a moment and then rolled sideways and dropped into the undergrowth beneath the log. The shrew meanwhile was sitting on its hind legs, almost incoherent with rage, sneezing violently and trying to wipe the froth from its face with its paws. The whole thing was so ludicrous that I started to laugh, and the shrew, casting a hasty and frightened glance in my direction, leapt down into the undergrowth and hurried away.

It was not often during the forest's siesta-time that I could enjoy such a scene as this."

(Note to above: Though Durrel does not name the snail in this account, it undoubtedly was some species of Achatina. This bubbling defense, incidentally, can be seen very clearly when one irritates an Otala or, to a lesser extent, in our native Mesodon and Triodopsis. . . MKJ)

THE DISTRIBUTION OF COLUS STONEI PILSBRY

By Fred Tobleman

This post-Pliocene fossil was described by Dr. Pilsbry in 1892 from specimens sent to the Academy of Natural Sciences of Philadelphia by Witmer Stone, Charles LeRoy Wheeler and John Ford. (Nautilus Vol. 7 PP67 Pl.3)

As far as the writer can find out, little or nothing has been written about this rare and interesting fossil or its range. The writer collected his first specimen, a damaged one, in 1945 at Ocean Grove, New Jersey, while on a visit there. It wasn't until I came to live there and systematically collect on the beaches of Asbury Park, Ocean Grove and Bradley that more fragments were found, in addition to one perfect specimen 56 mm. long with the nuclear whorls missing which would have added at least 2 mm. to its length.

I also collected at the type locality (Point Pleasant) on a number of occasions - the last time I was there I found a large fragment. The first one I exhibited at a meeting of the New York Shell Club and Mr. Morris K. Jacobson said that he had found a small one on Rockaway Beach, N. Y. which he showed me later.

The broken ones that I found would measure 120 mm. or better if perfect. None of the other fossils listed in the original article in Nautilus were found, but four specimens of a small *Polinices* of the *heros* type were found along with those of a large pholad in such a worn state that it would be hard to identify.

If perhaps others have found *Colus stonei* at other localities but haven't reported their find, the writer would like to know of such.

Localities where Colus stonei have been found:

Point Pleasant, N. J.	Witmer Stone
Sea Isle City, N. J.	John Ford
Cape May, N. J.	LeRoy Wheeler
Ocean Grove, Bradley Beach, N. J.	Fred Tobleman
Rockaway Beach, N. Y.	Morris K. Jacobson
Mann's Harbor, Dare Co., N. C.	William E. Old, Jr.

The small specimen I showed at the meeting was found at the south end of Ocean Grove, the large one was found at the south side of Shark River jetty at Belmar.

* * * * * * *

NOTE: In this connection, Mr. Morris K. Jacobson is in receipt of the following letter from Dr. Horace G. Richards of the ANSP:

"*Neptunea stonei* (Pilsbry)" (another name for the species under discussion) has been found in the Jacob sand (Pleistocene) on Gardiners Island and from a well at Westhampton Beach. It is also known from New Jersey and North Carolina. I regard this as of Wisconsin age. These records are mentioned in the following article:

MacClintock, Paul and Richards, Horace G. Correlation of Late Pleistocene Marine and Glacial Deposits of New Jersey and New York. Bull. Geol. Soc. Amer. vol. 47, pp. 289-338, 1936."

SHELL OF THE MONTH
by
BELLA KUDATSKY

It was December 25th, 1959. Were were on the beach at Sanibel. My husband, the children and I had spent several hours collecting shells. We were tired and hungry and it was high time to leave, but I hadn't found anything worthwhile and wanted to stay longer. My husband pleaded with me to leave the beach, the children's hungry eyes added their silent pleas, but my maternal conscience had taken wing and the conchologist in me asserted itself. I had stuffed the refrigerator and they could jolly well stuff themselves. Sanibel was my Shangri-La, I had come there to be on the beach and I was going to spend every waking hour there. I urged my husband to take himself and the children back to the bungalow and leave me in peace. He reminded me that there was a storm coming up and that I was several miles from the cottage where we were staying. How would I get back? Where would I go in the rain? His pleadings and warnings fell on deaf ears and helped only to convince me that families are a great handicap to serious collecting.

Left alone, I soon became absorbed in my fascinating pastime. I was searching in particular for Phalium granulatum, commonly called Scotch bonnet, but found none. I picked up Pinna rigida, Trachycardium magnum, Pinna serrata, Strombus pugilis and others I thought freshly dead, by the dozen. It must have been several hours later when I realized that it was thundering. The sky was black with clouds, there was an icy wind, and my teeth were chattering. I suddenly felt very much alone. Now, I decided, was the time to leave, but I was so exhausted that I could no longer drag the shells which I had accumulated. Besides which, the shells I had thought were freshly dead were reacting as if they had been freshly dead a week earlier. So I sat down, picked them over, gave each one the smell test, and threw away more than half the load.

Now that the heavy odor and weight were gone, I looked around for the path to the road. I noticed that the beach was deserted except for one family. A man and a young boy were on a sand bar about 50 yards from shore. They seemed to have found something alive. I called to them and they came over to me. They seemed to be as happy to speak to me as I was to speak to them. They had found a shell with an animal in it that they couldn't shake out. It was a nice shell, but they were looking for clean empty ones. Soon we were joined by the man's wife and daughter. I told them how lucky they were to have found a live one and I explained how they could get it cleaned out. The woman made a wry face, so the husband, with a great flourish, handed me the shell, saying, "Here's a Christmas present for you!"

I offered him a choice of the shells which I had found, and he took those of which I had duplicates. Then he offered me a ride back. Just as we got to the cottage, which was a considerable distance out of his way, the rain came down heavily. I came in to find that my family had eaten dinner and were snoring peacefully. When they awoke I told them of my happy experience and exhibited my shell. It was a common one - Fasciolaria tulipa, Linné. It is found in shallow water. The graceful whorls taper away from the swollen center to a sharp spire and straight canal. The surface is closely wound with pairs of dark hair lines that characterize the family. Wavy lines of gray cross the whorls, over these there are irregularly

broken longitudinal bands of brown. Color and design vary greatly. There are two or three small spiral grooves just below the suture, between which the shell surface is often crinkled. The thin lip is finely scalloped. The columella is narrow with two or three oblique folds. The aperture has a flesh colored lining. Length is from four to eight inches. It can be found from North Carolina to the West Indies.

As I said before, this shell is a fairly common one, but for me it has special meaning. I don't remember the name of the man who gave it to me or where he came from. But I do think of him with gratitude whenever I handle this shell. Because, even more than I like shells, I like people.

(Presented at the NYSC)
(Meeting of May 14, '61)

Postscript to above article: The erstwhile hungry husband joined the NYSC last May and has enjoyed some outings with us. 'If you can't lick 'em, join 'em!' ? (Ed.)

WHY IT'S SOMETIMES HARD TO IDENTIFY ONE'S SHELLS

by M. K. Jacobson

We came across the following item in a recent work on the Tornatellinidae and Achatinellidae, land shells that are found in the Pacific Islands:

"Adult specimens of some species of *Tubuaia* are difficult to distinguish from some species of *Lamellidea*, and there seems to be no distinctive conchological character that can be depended upon to separate the adults of the two genera. On the whole, the columella of most species of *Tubuaia* is slightly more twisted and terminates exteriorally in a more extended bluntly angulate process. *However, even in this character there is some overlap*." (Our emphasis). And further: "Adults of this species (*Tubuaia voyana*) cannot be separated from those of *T. perplexa* with any degree of certainty. The two species are here considered distinct on the basis of juvenile apertural characters which are of fairly good specific importance. On Rurutu and Rimatara, the only two islands from which typical material of *T. perplexa* has been obtained, there did not appear to be any intergrading of the two species. *However, an apparently intergrading species has been found on Rurutu since this paper was written*." (Ditto on emphasis).

When one reads this he wonders less why some experts look puzzled when they are boldly asked, "What's the name of this shell?" For unless you dissect the animals of the first case, you don't even know what genus you have. And if you don't have a whole family of shells: papa, mama and all the kids, you don't know what species you have in the second case. That is, if the two don't prove to be intergrading after all.

Whatever fun shell collecting can be, one must admit it ain't easy.

SOMEBODY lent the Club a box of Florida shells for our last exhibit. We still have these shells, and would like to return them to the rightful owner. Won't he, or she, please speak up?

MKJ

SHELLING IN SALT RIVER, ST. CROIX
by Gordon Usticke

"Salt River" is a fair sized lagoon on the north shore. Columbus anchored off here on his second voyage in 1493, when he discovered St. Croix. The whole area was then covered with native settlements, and to this day many huge middens are on the shores.

We went by small shallow draft (12" or less) motor boat from Christiansted, and had to go all around outside the outer reef to get to the narrow entrance in the reef into "Salt River". The shores are bordered by a very heavy and dense growth of mangroves, which renders the water practically unapproachable from land.

On the west side the water is fairly deep (10 to 15 feet) and when we got as close in to the shore as we could there was still about 3 feet of water over a very soft, muddy bottom. We could see one or two Tulip shells and an odd Pen shell. On the mangrove trees were many large (over 30 mm.) Littorina angulifera, including some of the scarce and attractive orange-red ones.

What I was really hunting for was the mangrove oyster, which is so plentiful in the Indian middens. We found huge clumps of Isognomon alatus on the mangrove roots just under water - some shells were enormous (up to 130 mm. long) and a dark purplish color, usually mottled rather like tortoise shell. On examination I found quite a few other shells mixed in with these "beehive"-like clusters including Diodora sayi and listeri and three other limpets, a Thais rustica, Brachidontes recurvus in two very different shapes, and a small green Chiton. Also Isognomon radiatus and bicolor.

I had nearly given up hunting for the mangrove oyster (Crassostrea rhizophorae) when I saw a few white "bones" sticking out of the water and, sure enough, the live ones were there, but mostly quite small. Evidently they are still taken for food. The lower valve is supposed to be very deeply cupped, but they frequently live on the flat Isognomon alatus, in which case the upper valve is, if anything, deeper than the lower, though it is deeply set into it. The upper valve has a thin purplish-black coating which comes off easily, and is often rayed.

We had a pleasant trip back and speared five lobsters in the harbor. They were hiding under a ledge with a large moray eel, and made a nice titbit on our return.

WELCOME: To two new members who joined our Club at the last meeting: Mr. Robert Heyman of Union, New Jersey and Mr. Anthony Chen of Trinidad

NOTE: A "Thank You!" to one of our members, Dorothy Jensem, who has generously offered the Club the use of her studio in Long Island City to hold our Club Shell Auction, April 1962. Anthony D'Attilio and Karl Jacobson will head the Committee in charge of the Auction, and Ann Taxson will head the Entertainment or Refreshment Committee. More details about this later, but think about what shells you will be putting in the Auction!!

NEW YORK SHELL CLUB NOTES No. 77 Dec. 1961

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, JANUARY 14th, 1961 at 2:00 P. M.
PROGRAM: "SHELLING IN THE INDO-PACIFIC" by Virginia Orr
"THE PREDATORY LIMAX" by Alfred Blanche

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

SPECIAL PROGRAM ANNOUNCEMENT !

Miss Virginia Orr of the Academy of Natural Sciences of Philadelphia will be guest speaker at our next meeting, January 14th. Her presentation of "Shelling in the Indo-Pacific" will undoubtedly have us all inquiring at the nearest travel bureau. Don't miss this meeting -- and don't be late!

NEW YORK SHELL CLUB'S COMING AUCTION

Instead of our regular meeting at the Museum April 8th, 1962, we'll have an auction at the Broadway Studio, 3108 Broadway, Astoria, Queens (the use of the studio by courtesy of our members, the Jensens!). The location is easily reached: it is at the B. M. T., Astoria line, "Broadway" stop. We are due for a lot of fun at this affair! Meanwhile, Anthony D'Attilio and Karl Jacobson are ready to receive your donations of shells, literature, etc. for auctioneer Doc Jacobs to work with. Follow that generous impulse!

FROM THE MAIL BAG:

Romeo M. Lumawig, 435 Sta. Teresita Street, Sampaloc, Manila, Philippines, has divers and collectors working for him in various parts of the Philippine Islands. He has an extensive price list of marine shells at very reasonable prices and would like to have correspondents get in touch with him.

AD'A

ON THE HISTORY OF OUR LOCAL PERIWINKLE, Littorina littorea Linne'.

By M. K. Jacobson

One of the most completely satisfying stories of our local shells used to be that of the periwinkle, so common on rocks and in salt marshes in our area. In a way the story was as satisfying as the more famous one of Eohippus etc., the development of the horse in North America. The species was unknown to our oldest malacologists and was not found fossil or in Indian shell mounds, and hence was assumed to be a new introduction, accidental or intentional, to our fauna when it first appeared about 1857 in Halifax, Nova Scotia. From here it made a steady and beautifully documented trip down the coast: in 1870 it arrived in Portland, Maine; in 1872 it reached Salem and Provincetown, Mass.; in 1875 it was in Woods Hole and five years later it showed up in New Haven, Conn. In 1881 Prime collected it at Lloyd Neck, Long Island, and 1888 saw it at the Narrows in Staten Island. A while later it was reported from Southern New Jersey, where apparently its pleasant odyssey ended. Who could ask for a neater itinerary? Here under the eager eyes of the malacological world this little snail was spreading its range to a new home, a latter day migration as thrilling in its way as that of our forefathers.

Thus the pleasant story (dutifully mentioned in our recent publication, "Shells of the New York City Area" page 52) till this year. In "Science" for August 11, 1961, Dr. Arthur H. Clarke of the National Museum of Canada and John S. Erskine published a little article called "Pre-Columbian Littorina littorea in Nova Scotia". It appears that in the course of some excavations near Halifax, Nova Scotia, Erskine found "specimens of *Littorina littorea* . . among undisturbed hearth debris (which were) associated with *Cepaea hortensis* and other shells, bones, charcoal, and prehistoric artifacts." (l.c.) From study of the deposits, it was decided that these shells date from the Little Ice Age, about the 13th century. Radio-carbon datings confirmed this. Hence the authors assume that the periwinkle was a well established member of our fauna long before the advent of the white man. Why, then, did this species not begin its southward spread till the 19th century? The paper indicates that this was probably due to oceanographic factors: "Driftbottle studies indicate that the major surface circulation on the Nova Scotian shelf is such that pelagic eggs and larvae of *L. littorea* spawned in the Halifax area would probably be carried out to sea and perish." (ib.) However, increased commerce between Halifax and more southerly ports introduced the species to areas where this adverse current was not operative and instead permitted the species to extend southward.

The periwinkle, then, is native to our continent, but its presence in our waters still occurred first in comparatively recent times. Hence, instead of comparing the migration of this little mollusk to the comparatively recent one of our forefathers, we should rather compare it with the ancient one of the Mongoloid peoples that crossed Bering Strait and became our Indian predecessors.

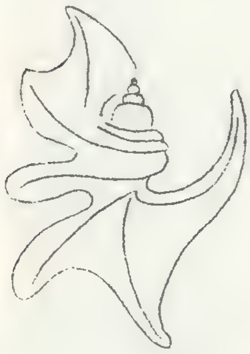
Actually, of course, this natural change of range by a species in recent times is nothing new, as can be seen in the case of *Congeria leucophaeata* ("Shells of the N. Y. C. Area", p. 83), *Noetia ponderosa* (ib., p. 76), and *Littorina irrorata* (ib., p. 52).

CAN YOU MATCH THIS?

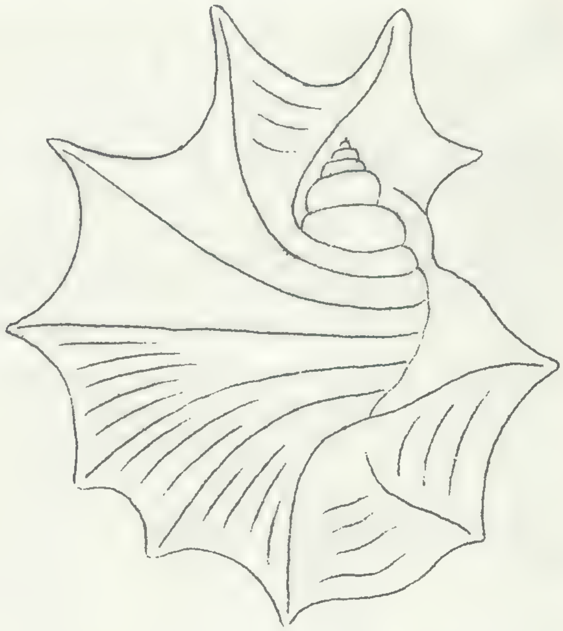
by
Anthony D'Attilio

For title to some of the most strange and wonderful shell forms evolved by Nature, we propose the fossil record of the Aporrhaidae. This family is represented among living species by a few forms in Aporrhais ss. They are: Aporrhais *serresianus* and *pespelicanis* of the Mediterranean, *senegalensis* from West Africa, and *occidentalis* from the Northwest Atlantic. The following illustrations are fair evidence of the fantasies evolved by this genus through past geologic ages -- and are curious and odd, to say the least!

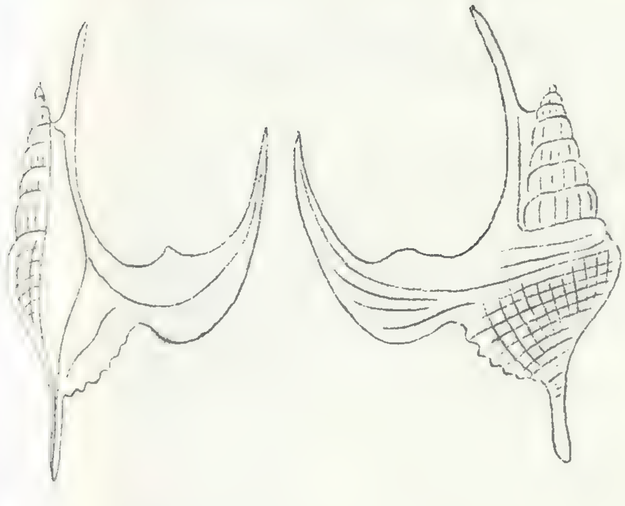
These illustrations are drawn from HANDBUCH DER PALAOZOOLOGIE GASTRAPODA by Wenz:



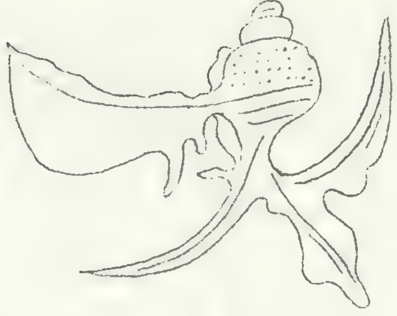
Aporrhais tippanus (Conrad)



Aporrhais ponti (Brongniart)



Aporrhais ornatus (Orbigny)



Anchura arachnoides (Muller)

A HOLIDAY SHELLING ON ST. CROIX

by Gordon Usticke

On a day last May we met Mr. and Mrs. Hillman on their arrival at the large new airport here. Mrs. Hillman recently won the Smithsonian Award at the St. Petersburg Shell Show, and my friend Dan Steger had suggested that they come down to St. Croix and do some shelling.

Next morning we went out to shell along the west coast, and found plenty of interesting live shells in the small bay at Ham Bluff: a number of chitons, the tiny Puperita tristis, so often overlooked, and many other shells. It was impossible to do much at the splash pool zone, as the sea was so rough and the wind so strong we had difficulty in maintaining our footing. A short visit to two other usually good beaches proved unremunerative.

Next day we took advantage of a fairly low tide to try Salt River. The approach to this was so overgrown with tall grasses that it seemed doubtful if the small car could make it, but finally we arrived at a small sandy spit jutting out into Columbus Bay. Careful searching along the rather rocky shores produced two large Vasum muricatum and a few Semele proficua radiata, a pretty shell, and others. We then waded out to a seaweed covered sand bank about 100 yards offshore, and in no time at all Mrs. Hillman found a beautiful large Triton, Charonia variegata, feeding in the grasses. This, of course, was a real prize, and after cleaning a really magnificent shell. We found some other shells, but nothing approaching the Triton.

With another low tide we went to Kerr's Beach on the south shore to look for Asaphis deflorata and found some handsome pairs. (I'm sure Karl will remember this beach -- where he took such a dive from the Carib shell mound!) (See NOTES #44 for the report on Karl's adventure. -- Ed.) The shore was lined with thousands of the very pretty Neritina virginea, no two of which were marked alike. We also got several of the pink-banded Codakia orbicularis - a common shell but very attractive; a bit further on I saw a bank a short distance offshore that I thought worth investigating for the Flame Helmet, and sure enough I found the upper part of a huge Cassis flammea protruding out of the sand. It was a real beauty -- perfect, and 153 mm. long, the largest on record.

We then returned to sample some of Mr. Kerr's gin swizzle, which was as good as when Karl was there! Mr. Kerr has about 50 peacocks around his place.

After this (not the gin swizzle) we took off a day to rest up and to clean the shells, and then we tried Judith's Fancy. Here, unfortunately, the reef which used to be so productive has been largely ruined by builders with bulldozers, and we did not do as well as I had hoped, though we did get a fine Lucapina limatula with its orange body and for the first time I saw live Cheilea equestris, the False Cup and Saucer. These live on the underside of coral rocks, and are placed on top of a thin shelly plate which is so firmly cemented to the rocks that it is practically impossible to salvage it. The following day we visited another part of Judith's Fancy, and I was very happy to get a very nice Circostrema dalli (a really rare epitonium) and also a few other rare epitoniums and a few specimens of a Crassinella different to any I had previously found.

Another day we went to Altona Lagoon. Here the bottom was littered with small pairs of Pitar albida including some of the pretty rayed ones, also

pairs of *Chione cancellata* with attractive markings and the pretty little orange *Macoma cerina*. There were several *Cymatiums*, mostly crab shells, and at a small island in the middle of the lagoon we found a number of very large *Haminoeas*, yellow bubble shells about 1" high. I also found an oddity, the internal shell (about 2" long) of an *Aplysia protea*, a large greenish spotted sea hare which gives off a cloud of purplish ink if not handled gently.

A trip to Cane Bay, over the very scenic North Drive, was not too productive due to the very high tide, and we returned over "Parasol", a high and very steep road, then ran into a cane field fire. The smoke was so dense that you couldn't see a yard in front of you. The fire trucks were out, watering the edges of the fire, and the power plant employees were standing by in case the fire reached their power poles.

After a few more days of cleaning and sorting, the Hillmans went back home with a big lot of shells.

I had hoped that the Hillmans would have been able to stay for the very low tides on Decoration Day. Unfortunately they missed a fine shelling opportunity, as the outer harbour reef can be worked then -- so I went out with my wife and two friends. We ran our boat aground on a sand bar about 100 yards from the reef and cautiously made our way, dodging the myriad sea urchins with which the bottom is covered. The water was rarely over 3 ft. deep. Climbing up on to the reef is difficult, but once there we started working the rocks and found many scarce shells: a small orange *Triton*, a very rare color form, a fine *Colubraria testacea*, several of the beautiful *Risomurex rosea* and *Phos adelus*, a number of the very dainty *Arene cruentata*, two of the rare Turrid, *Crassispira quadrifasciata* and several other Turrids, also the largest (about ½") of the Rissoinas, *Rissoina princeps*; the rare little *Hyalina albolineata* which appears jet black when alive, the orange bands showing up only after the animal has been removed! A number of the larger *Mitras* were found, including *M. nodulosa*, *nodulosa pallida*, beautifully marked M. *dermestina*, and a striking red, black and white M. *histrio* - a very rare shell; also a large dark *Pisania pusio*, several *Latirus brevicaudatus* and many small *Conus mus*, as well as several others.

We sailed back to Protestant Key, to a beach just loaded with shells, but we were too tired to do much more shelling and so after some refreshment (liquid) went home.

Next day, as the tide was still low, I went to Columbus Point to try for some of the scarcer Chitons. Unfortunately the wind was too strong, and it was impossible to get any of the larger Chitons, and for some unexplained reason the small ones had vanished. So, next day I decided to try Southgate Beach for small Chitons, and, to my delight I got many of them by turning the stones and looking very closely. They were in a foot or less of water at low tide. These small Chitons are really quite pretty, and they come in many varieties and colors. The largest run from 1" to 1¼" -- some speckled with mauve, many have olive markings, some are almost black, others have two longitudinal rows of large red blotches, a few rare ones have jet black girdles, giving them a very striking appearance, then there are rare ones brick red in color, and also bright green or brilliant purple, the two latter very rare colors.

To cap a successful hunt, I found one small chiton with very dainty white markings. It was quite new to me, different to any others I have seen.

Our list of shell clubs, gleaned in the greater part from the A. M. U. reports, was about to be printed when the Hawaiian Shell News of September, 1961 arrived with more data and the 1961 names of the club members to contact for information. We have included their new data in our list, and hereby send them a large THANK YOU for the assistance. Our first installment lists shell clubs between New York and the Florida Keys, with accompanying information to the best of our knowledge:

CENTRAL FLORIDA SHELL CLUB Mr. Corbin Ballantine Parr Avenue Orlando, Florida	
GREATER BALTIMORE SHELL CLUB Miss Carol Ann Supp 3937 Lowndes Avenue Baltimore 18, Maryland	Meets at the Natural History Society of Maryland, 2101 Bolton St., Baltimore, bi-monthly on last Tues.
JACKSONVILLE SHELL CLUB Katherine Raven, Cor. Sec'y 6323 Pine Summit Jacksonville 11, Florida	Monthly mimeographed bulletin, "The Shell-O-Gram"
NAPLES SHELL CLUB Mrs. Beatrice Cole, Pres. P. O. Box 1003 Naples, Florida	Meets the 2nd Thursday of each month October to May at the Women's Club Auditorium, Naples.
NATIONAL CAPITAL SHELL CLUB c/o Dr. Harald A. Rehder Division of Mollusks U. S. National Museum Washington 25, D. C.	Meets the 3rd Thursday of the month, 8:15 P. M., Room 43 of the Natural History Bldg., Smithsonian Institution.
NORTH CAROLINA SHELL CLUB c/o Hugh Porter, Sec'y Fisheries Research Institute Morehead City, North Carolina	Quarterly meetings vary in place of occurrence.
PALM BEACH COUNTY SHELL CLUB Mrs. W. Hughes, Sec'y 1011 South "M" Street Lake Worth, Florida	Meets 1st Friday of each month, Strait Museum, Lake Worth. Mimeographed paper "Palm Beach County Shell News".
PHILADELPHIA SHELL CLUB Mr. Robert J. L. Wagner 1122 Westbury Road Jenkintown, Pa.	Meets 2nd Thursday of each month 8 PM Sept. through May at the Academy of Natural Sciences, 19th & The Parkway. Publishes "Annual Proceedings".
SAINT PETERSBURG SHELL CLUB Mrs. Edna Marcott, Cor. Sec'y 4545 77th Way North St. Petersburg, Florida	Meets 2nd & 4th Friday of each month Nov. through March, at the Catholic Daughters of America Hall.
SANIBEL-CAPTIVA SHELL CLUB Eugene Crowder Sanibel, Florida	
SOUTH CAROLINA GRAND STRAND SHELL CLUB Mr. Richard E. Petit, Pres. P. O. Box 133 Ocean Drive Beach, S. C.	Meets 3rd Tuesday each month, 8 PM, Sept. through May, at Chamber of Commerce Bldg., Myrtle Beach, S. C.
SOUTH FLORIDA SHELL CLUB Mrs. Elizabeth DuPuis c/o Museum of Science & Nat. Hist. 3280 South Miami Avenue Miami, Florida	Meets 4th Monday of each month, 8:00 P M, at the museum.

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President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
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16 Baxter Avenue
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JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

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NEXT MEETING: SUNDAY, February 11th, 1962, at 2:00 P. M.

PROGRAM: Annual elections.
Neil Petersen's report of his summer in the Pacific with an oceanographic research expedition.
Shell-of-the-Month by Dorothy Germer.

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"LIFE IN THE SEVEN SEAS"

Mathilde Weingartner, science curator at the Staten Island Museum, has advised us that the special exhibit on oceanography, "Life in the Seven Seas", will be open to the public February 11th and be on for about a year. The exhibit will show many kinds of sea life, from plankton to seals. You will find it on the main floor of the Staten Island Museum, 75 Stuyvesant Place, Saint George. (From the ferry terminal, go one block inland to Stuyvesant Place, turn right and proceed roughly three blocks to the museum.)

"THE MODERN CHALLENGE OF THE SEVEN SEAS"

This is the topic for a symposium which will be held Saturday, March 31st, at the Staten Island Museum. Dr. Ruth Turner of the Museum of Comparative Zoology will be one of the speakers. Other speakers will be there from the Lamont Laboratory and from the Fish and Wildlife Service. Sessions will be held 10 A. M. to 12 noon, 2 P. M. to 4 P. M., and an evening session for which the time is as yet unannounced. All members of the New York Shell Club are invited to attend any or all sessions. . . . Check your calendar for March 31st and plan to be there!

THE 1962 A. M. U. PACIFIC DIVISION MEETING will be held June 27th to 30th at Asilomar, California. Our source for this information is the Pacific Northwest Shell News.

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*EXCEPTION TO SCHEDULE: April 8th, when we will hold our CLUB AUCTION!

NEW PUBLICATION: LATE CENOZOIC GASTROPODS FROM NORTHERN VENEZUELA, by Norman E. Weisbord. 655 pages plus Index, 48 fine phototype plates. Contains description of 288 species of gastropods, Miocene to Recent, compared in detail and illustrated. Large number of living shells from Cabo Blanco and Hiquerote, discussed with complete synonymies. Bibliography of 119 pages. Fossils from La Salina de Guaiguaza and Cabo Blanco. Prepublication price $12.00 plus 19¢ postage, after April 1, 1962 - $13.50. Please include payment with order to Paleontological Research Institution, 109 Dearborn Place, Ithaca, New York.

A NEW SHELL PERIODICAL

We have just received a copy of volume 1, number 1 of the Comunicaciones de la Sociedad Malacológica del Uruguay (September, 1961). This is a nicely printed 23 page mimeographed and illustrated paper, with a specially produced cover sheet. All the articles are in Spanish. The seven articles it contains are mainly scientific papers written by such well known students as Luis P. Barattini, Miguel A. Klappenbach and others. The Society has 29 members including the best known malacologists of Uruguay. Several of the members indicate that they are interested in exchanging shells.

We welcome this new colleague to our ranks, though we freely admit that it stands on a much higher scientific plane than our own house organ, the NOTES. The Comunicaciones in a way is really the Nautilus and the Veliger of Uruguay, as well as a private club paper like our own. The editor, Eliseo Duarte, (Casilla de Correo 1401, Central, Montevideo, Uruguay) says among other things in his word of greeting in the new publication: "We turn in friendship to all the shell clubs of all countries and offer them the support of our members and await from them an attitude of cordial reciprocity." To which we add our hearty acceptance.

mkj

PHILATELIC CONCHOLOGY: A friend in Cuba sent us a Christmas card. He used three postage stamps of the one cent denomination of the Christmas series 1961. This denomination seems to be limited to pictures of snails. Each of the stamps shows a different color form of the colorful tree snail Polymita picta. Other stamps of the series show the birds and butterflies of Cuba, and presumably still others (which I did not get), the insects and other forms of life. These are very colorful stamps with a recognizable picture of the animals involved. There are not many stamps, our stamp collecting friends tell us, that show snail shells, and hence the stamps described above are unique. Surprising, too, in openly communist Cuba is the fact that the stamps were issued for Christmas and bear the word "Navidad" prominently in the design. . . These stamps will be shown at the next meeting.

mkj

THE CONSERVATIONIST, an official publication of the New York Conservation Department, carries in its December-January issue an illustrated article, "Mirror to the Past", by Dr. Donald W. Fisher, New York State Paleontologist. An introduction to fossil collecting, it includes mention of some New York State molluscan fossils and gives a general idea of where to look and how to go about your collecting.

DREDGING AROUND CAPE ANN, MASSACHUSETTS

By Gladys McCallum

Dredging, even in shallow water, is an experience many amateur collectors never get to enjoy. Probing into the unknown depths for molluscan specimens which are rarely found along the water's edge is intriguing to contemplate. When one is offered an opportunity to partake in such a venture, needless to say, one accepts with alacrity.

So it was that in the summer of 1960 I found myself aboard a former lobster boat named "The Perrywinkle". The skipper was, appropriately, Mr. Perry. Our host was Dr. Ralph W. Dexter of Kent State University, Kent, Ohio. His studies of the marine fauna of the Cape Ann area are sponsored by the University and the U. S. Atomic Energy Commission. Gloucester Harbor, Massachusetts, was the area chosen for bottom samplings that day.

The dredge which was used measures about 18 inches wide, 9 inches high and 2 feet deep. It is made from an iron frame and covered with hardware cloth, and weighs approximately 50 pounds. It was dropped over the side and dragged along the bottom for about ten minutes. Slow speeds are best to capture those organisms with limited mobility. Ordinarily the tow rope should be paid out to a length equal to three times the depth of the water in order to keep the mouth of the dredge on the bottom. A winch was put into action to haul in the dredge. The contents were dumped into a large round washtub. Each piece of seaweed was inspected for marine life of any type and noted by Dr. Dexter. Counts were made and samples of small live specimens were preserved in jars of alcohol. In one haul we estimated there were 4,000 sand dollars! Everything not being saved for further study was returned to the sea.

In August of 1961 our host and captain were the same, but a new boat was used - "Perrywinkle II", a 29 foot cabin cruiser. While larger and more luxurious, the new boat did not have a winch. This necessitated pulling in the dredge by hand (not recommended for someone with weak muscles!). The day was a poor one weatherwise, but we set out for Ipswich Bay, reached from Gloucester Harbor by boating through the Annisquam River (a marine tidal inlet). There, in water approximately 50 feet deep, the dredging was done. Without a winch the process was a slow one. The pitching and rolling of the boat made the task even more difficult for Mr. Perry's son Bob, who was handling the dredge. Only two hauls were made that day, due to foul weather. The mollusks collected were all common ones: *Tellina agilis*, *Lunatia heros*, *Nassarius trivittatus*, *Lacuna vincta*, *Mytilus edulis*, *Littorina littorea*, *Spisula solidissima* and *Hiatella arctica*.

The *Tellina agilis* were dead specimens. Dr. Dexter said there used to be many live ones in the hauls, but few in the past several years. The reason for this is not known. In past years he has dredged down to as much as 80 feet, but the equipment is not effective below 50 feet. Altogether he has dredged twenty species of mollusks from Ipswich Bay. (See "The Nautilus" 56:57-61. 1942; "Ecology" 25:352-359. 1944; "Ecological Monographs" 17:261-294. 1947.)

In addition to the mollusks, we found such things as Sand Dollars, Sand Shrimps, Hermit Crabs, Sea Urchins, Starfish, Moss Animals, Scale Worms, Sponges, a Sculpin, Eel Grass and several species of seaweeds, including Sea Lettuce, Irish Moss and Devil's Apron.

THOUGHTS ON LIVE-COLLECTING

by M. K. Jacobson

Recently I had the pleasure of working over a large collection of land shells acquired by the Mollusk Division of the American Museum of Natural History. This was an excellent collection, rich in bizarre and colorful shells from such distant and poorly collected places as the Celebes, Sumatra, Ceylon, Seychelles, Hainan Island, India, Burma, etc. In addition there were vast numbers of shells from better known and oftener collected areas like Cuba, Jamaica, Brazil, Mexico, and even the U. S. A. No doubt the Museum will be happy to accession many of the shells from the areas first named, even though the only data is the name of the country itself, for these shells are new to the collection and constitute unique examples.

But what about the shells that already are present in more or less numerous, well labeled lots in the collection? Of what value is a label that baldly states "Mexico", or "Cuba", or even "Florida" when the Museum has similar lots with precisely detailed locality data? Rather little if any, it must be sadly admitted.

As I gazed upon trays and trays of colorful *Polymita picta* (Cuba!), or *Helicostyla* (Philippines!), or *Achatinella* (Hawaii!) a great sadness fell over me. I was forced to think of the saintly Dr. Albert Schweitzer and his basic philosophy of "reverence for life". And I thought, to what purpose were all these snails murdered? They are now nothing more than colored bits of matter, good enough to entertain a child for an idle moment or so, to be discarded forever when the mood changes. I followed this line of thought.

If any collector in his overwhelmingly superior strength decides that, at his own pleasure, this or that animal will now come to the end of its existence, let him at least make the decision so that some good will come of this. Let the animal be sacrificed for some purpose besides that of a moment's interest. Had the collection referred to above stated in detail where each snail had been collected and under what circumstances, however trivial, there would have resulted an object that would be of lesser or greater value to the advancement of knowledge. Scientific experience has abundantly demonstrated that any authenticated detail or fact, however ridiculously unimportant at the moment, becomes in time crucially important in some future vital process.

What does this mean to us? Nothing more than the assigning of a real purpose to the many little tragedies (to use an unnecessarily strong word) that occur during any collecting trip. The point I wish to make should now be clear. Perhaps some penetrating metaphysicist can come up with a sound reason, other than personal pleasure, to justify our collecting of "taken-alive" specimens. But until that time, let us provide our own justification. Let us not take and kill *any* specimen without firmly resolving that the act of violence (again too strong a term) we commit shall not have been completely in vain; that we shall produce an object that will be of value, however slight, to yet unborn generations of students; that, to come to the simple heart of the matter, we shall provide every specimen with an exhaustive, meaningful label of data, so that even generations hence -- when we have all be gathered to whatever place it is that all good shell collectors finally go -- some student will look with interest

upon and carefully preserve the remains of the inoffensive little animal whose existence had been untimely terminated.

This far my thoughts led me. Then I cheered up. I know that what I say above is an emotion-charged restatement of a point that is well known to most of the "field-collecting" members of our Club. I was tempted to destroy it. But then I looked at the collection again, and I realized that new collectors are made every day. And thinking of them, I said "stet", "let it stand".

OBSERVATIONS OF LIVING LIMACIDAE

We have just received a copy of an interesting article, co-authored by our member Edward J. Karlin. It is called COURTSHIP, MATING, AND EGG-LAYING BEHAVIOR IN THE LIMACIDAE, published in the Transactions of the American Microscopical Society, vol. 80, October 1961. This is a very carefully written record of some painstaking and exhaustive observations on the behavior of slugs, and contains some original and important observations. We quote from the discussion: ". . in the genera *Deroceras* and *Milax* (the slugs) possessed evertible excitatory organs or sarcobela which were used in preliminary courtship actions. Members of the genus *Limax* lacked these organs but engaged in similar patterns of early courtship. *Limax maximus* copulated in mid-air while suspended from a slime thread. *Limax poirieri* probably mated on the soil since it is terrestrial in its behavior . . . . *Deroceras reticulatum* mated on open soil areas whereas *D. laeve* followed similar behavioral patterns in concealment. Courtships involving three individuals occurred occasionally in *D. reticulatum*." This work shows how much more than simple collecting can be done in the field of malacology. We find--for artistic reasons, we suppose--the last sentence quoted to be particularly alluring.

mkj

PEDRO DE MESA

The veteran field collector, Pedro de Mesa, is still actively engaged in conchology and offers for sale fine specimen shells. This writer has received from him many parcels from the period immediately following the end of World War II until the present time, of both the marine and rich land shells of the Philippines. However even before this period, in the 1920's, he was sending land shells to Dr. Bartsch and other noted malacologists. Many of these shells were new species which today bear his name.

His present address is: 44-B Camerino Street, Project 4, Quirino District, Quezon City, Philippines.

A. D'Attilio

DON'T FORGET to send in those shells for our auction. Look over your collections: That Golden Cowry taking up too much room? That Conus gloriamaris a dust-collector? We'll gladly accept them! Also any other shells, large or small, from Atlantic, Pacific, or wherever. Write out the name and data, enclose it with the shell, and turn it over to Tony D'Attilio or Karl Jacobson. We'd like literature, too!

THE QUESTION BOX has been pretty empty lately. Write out your questions and hand them in at the meetings. (You may remain anonymous.)

CONCHOLOGICAL INTERVIEWS - Part 2.

WILLIAM J. CLENCH and RUTH D. TURNER at the MUSEUM OF COMPARATIVE ZOOLOGY

by Henry S. Gordon

Already heavily endowed with deans, Harvard University can further boast claim to the unofficial dean of American malacology, William J. Clench, curator of mollusks at the school's Museum of Comparative Zoology. Probably no other living U. S. scholar has contributed as much to the study of the mollusca, surely no one has trained as many shell men to keep the research going.

The list of Dr. Clench's alumni reads like a world "Who's Who" in the science:

R. Tucker Abbott:	Pilsbry Chair of Malacology, Academy of Natural Sciences of Philadelphia.
Isabel Canet :	formerly Professor of Zoology and Associate Curator of Mollusks, University of Havana.
J. Lockwood Chamberlin:	U. S. Fish and Wildlife Service, Washington, D. C.
Arthur H. Clarke:	Curator of Mollusks, National Museum of Canada, Ottawa.
Richard W. Foster:	Research Associate, Museum of Comparative Zoology, Harvard University.
Richard I. Johnson:	Research Associate, Museum of Comparative Zoology, Harvard University.
Yoshio Kondo:	Malacologist, Bernice P. Bishop Museum, Honolulu.
Arthur S. Merrill:	U. S. Fish and Wildlife Service, Woods Hole, Massachusetts.
Donald F. McMichael:	Curator of Mollusks, Australian Museum, Sydney.
Edward Michelson:	Instructor in Tropical Public Health, Harvard School of Public Health, and Associate in Mollusks, Museum of Comparative Zoology.
Thomas E. Pulley:	Director, Houston Museum, Houston, Texas.
Harald A. Rehder:	Curator of Mollusks, U. S. National Museum, Washington, D. C.
Robert Robertson:	Associate Curator of Mollusks, Academy of Natural Sciences of Philadelphia.
Joseph Rosewater:	Associate Curator of Mollusks, U. S. National Museum, Washington, D. C.
Ruth D. Turner:	Research Associate in Malacology, and Alexander Agassiz Fellow in Oceanography and Zoology, Museum of Comparative Zoology, Harvard University.

These form a nucleus of the probably less than 100 full-time workers in the field. Clench estimates that about half this number is in the U. S., with the remainder spread over the entire rest of the world -- ironic indeed since mollusks comprise the second largest of the phyla, being outranked only by the arthropods.

Presently there are three graduate students in the department but this number will certainly change. The surge of interest in the oceans has assumed near-flood proportions and malacology should take some part in the boom.

Clench notes that with improved technology hitherto untapped areas will be opened to the scientists' study. One of these is the sea bottom, or benthos, whose mysteries are now giving way to the probes of such recent undersea equipment as aqualungs and bathyscaphes.

Another, more potentially fruitful, region is the outer side of reefs. Past neglect of this vast area has been due not only to a dearth of equipment but also to the justifiable reluctance of natives and collectors to battle man-eating sharks for water rights. Now, however, all factors are ganging up on these hitherto hostile environments to push aside the veils.

Meanwhile back at the universities training goes on. Unfortunately, however, today's fledgling malacologist does not have too wide a range of schools to select from. Besides Harvard, only the University of Michigan (specializing in land and fresh water fauna) and Stanford University offer advanced curricula.

At Harvard, malacology is much more than a one-semester elective, and students must have at least a B. S. (they often have an M. S.) prior to attending. Prerequisites for admission include credits in zoology, chemistry, physics and mathematics; and Clench suggests background in evolution, languages, geology and paleontology as well. The degree granted by the university is a Ph. D. in zoology, with a major in malacology.

Initially, a committee examines the candidate's past record to find both weaknesses and strengths, then lists those areas in which the student must concentrate. At the same time, his chief field of interest is determined so that emphasis can be properly directed. Clench is quite pleased to note the amount of individual instruction the student receives.

MCZ AND ITS FACILITIES:

Home base for malacology at Harvard is the Museum of Comparative Zoology (MCZ), an ivy-covered, red-brick, E-shaped structure that along with the Peabody Museum of Archaeology and Ethnology forms part of a life sciences sector on campus. The MCZ was founded in 1859 by Louis Agassiz, famous Swiss-American naturalist. Through the years, it has flourished, continually gaining in eminence. (One sure sign of its well-deserved rise: from inception, only five directors have held the reins.) And its faculty is world-famed. Clench shares laurels with such noted naturalists as MCZ's present director, Ernst Mayr (ornithology, taxonomy); Alfred S. Romer (vertebrate paleontology); George G. Simpson (vertebrate paleontology, evolution) and Philip J. Darlington (entomology, geographic distribution).

TO THE SHELLS!

The Department of Mollusks is housed in a spacious suite. This is broken into five sections, Rooms A - E. Room C is the heavy-duty post, with the library, worktables and file cabinets. The other rooms

contain work areas, equipment and the collections.

The department's library is enormous. Shelves of shell literature furnish complete reference data, with hardly any need to go to an outside source. All the classics are included, as well as countless obscure monographs from around the globe. The reprint collection consists of about 20,000 titles.

As to MCZ's shells, Clench estimates the number at about 10 million specimens of 40,000 species. These make up about 400,000 lots, which are housed in some 6,400 drawers. Among the better-known acquisitions: the Bermudez and De La Torre collections, both of Cuban land shells, and the Gulick collection of Hawaiian shells.

Although Clench believes the British Museum probably has reaped the greatest treasure of molluscan types, he notes that MCZ possesses a staggering 3,000 of its own. He himself has been responsible for naming around 500 species, and has been honored five or six times by having shells named after him.

AND SO TO PRESS: Probably the most noteworthy endeavor stemming from Harvard's malacologists is publication periodically of JOHNSONIA, subtitled MONOGRAPHS OF THE MARINE MOLLUSKS OF THE WESTERN ATLANTIC. Named in a gesture of respect for Charles Willison Johnson, one-time curator of mollusks and insects at the Boston Society of Natural History, who was instrumental in developing Clench's interest, JOHNSONIA comprises a series of glossy-papered monographs that treat species, via full generic studies, indigenous to Western Atlantic waters.

The exact range of coverage extends from Greenland down to the Gulf of San Jorge in Argentina - a spread that was not chosen arbitrarily. Clench notes that to the south, i. e., around Patagonia, the fauna changes, becomes consistent with that of Cape Horn and up to about Chiloe Island on South America's west coast. Cause of the split is the Humboldt (or Peruvian) Current, a cold ocean stream whose route is north along the coasts of Peru and Chile.

JOHNSONIA's first issue was dated October 25, 1941, and featured a monograph on the genus Strombus, authored by Clench and his then-student R. Tucker Abbott. Since that time, close to 500 species have been surveyed, researched and presented by Clench and his staff, notably Clench's right hand, Ruth D. Turner. Latest evidence of the Clench-Turner collaboration: a comprehensive 80-page presentation of the genus Calliostoma. Upcoming: full regional treatment of the family Naticidae, involving 40 - 50 species.

The department also issues OCCASIONAL PAPERS ON MOLLUSKS. These are studies of particular species, faunal rundowns of restricted localities, biographies of people in the science, etc. Like JOHNSONIA, publication is on an if-and-when basis, but currently the aim is for about 100 pages annually (and 100 pages for JOHNSONIA).

One project started some years ago suffers for lack of a 25-hour day. This is an attempt to monograph the genus Papuina, an undertaking involving approximately 200 species ranging from the Moluccas to the Solomons. Clench regrets that this work must continuously be sidetracked to accommodate shifts in the routine - of which there are many.

(To be concluded in an early issue.)

NEW YORK SHELL CLUB NOTES No. 79 Feb. 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY *

NEXT MEETING: SUNDAY, MARCH 11th, 1962, at 2:00 P. M.

PROGRAM: George Raeihle will present color slides of Everglades National Park, Florida.
Discussion of and plans for annual field trip.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

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* EXCEPTION TO SCHEDULE: April 8th, 1962, when we'll have an auction -- of, by and for the Club -- at the Broadway Studio, 3108 Broadway, Astoria. Bring the shells you are donating to the March meeting so that the committee will have plenty of time to set them up. Be generous. We need them!

AT OUR ANNUAL ELECTION held February 11th, the chairman of the nominating committee made a speech praising enthusiastically the work done by the officers of the past year, then nominated them for another term. The Club voted a unanimous "Aye!". It has been an eventful year -- and we're looking forward to the next one!

CONCERNING "INDO-PACIFIC MOLLUSCA"

Anthony D'Attilio gives us this excerpt from a personal communication from Dr. R. Tucker Abbott:

"In the next few months I hope to be completing a monograph on the Cassididae. If all goes well the Tridacnidae and some of the Turridae should be published this year.

You will be interested to know that we have 720 subscribers."

(Our understanding is that INDO-PACIFIC MOLLUSCA will be self-sustaining when subscription reaches 1,000. --AD'A)

NEWS FROM FLORIDA:

Our member Mrs. H. M. Bixby writes that the Sanibel Shell Fair will be held March 1st, 2nd and 3rd. We understand that Dr. R. Tucker Abbott will judge competitive exhibits.

Mrs. Bixby also tells us that members of the Sanibel-Captiva Shell Club have formed a committee to collect specimens for our American Museum of Natural History. We know that their labors and the specimens collected will be very much appreciated.

. . . . . .

We quote this item from the February 1962 issue of "Shells and Their Neighbors": "South Florida Shell Club show of shells and fossils in conjunction with Miami Mineralogical and Lapidary Guild. Museum of Science and Natural History, 3280 South Miami Ave., Miami, Fla. March 18, 1 to 7."

MOLLUSKS IN MEDICAL RESEARCH

At one of our recent meetings, our member Dr. Joseph Abramson showed us an item from the "Medical World News" of September 15, 1961 that may be of some interest to our members. It seems that in the sunny Bahama Islands there was a surprisingly low rate of polio cases among the inhabitants. This in spite of the fact that many fishing and sunning visitors from the mainland, presumably loaded with polio viruses, were in yearly contact with the native population. Dr. Howard Rusk of Bellevue remembered that the foot of the abalone (Haliotis) was shown experimentally to have some sort of anti-polio properties. He also noticed that one of the staple dishes of the Bahamians was conch (Strombus gigas) and hence concluded cautiously that perhaps in this lay the clue to the low polio rate. Some corroboration was found in the fact that on Nassau, where conch is less enjoyed than on some of the other islands of the Bahamas, like Bimini, more polio appeared than elsewhere. Nevertheless, with true scientific caution Dr. Rusk stated, "These simple ethnical observations are intriguing, but far from conclusive." He called for much more research.

Of further interest to those of us who do not turn our gentle noses up at outlandish dishes, is the fact that presumably the Italian delicacy known as scungili, based upon the foot of Busycon and, occasionally, Polinices, might also possess this useful anti-polio property. This should prove to be of great comfort to some of our members who recall the 1955 AMU meeting on Staten Island and the luscious scungili dish that was served in Buddy-Buddy's Bar and Grill. In the humble opinion of your reporter, the investigations that Dr. Rusk calls for should include not only the properties of scungili as such, but rather scungili washed down with copious pitcher after pitcher of cold beer. How comforting it would be to discover that the cold and delightful brew enhances the poliocidic properties of scungili a hundredfold!

. . . . . .

mkj

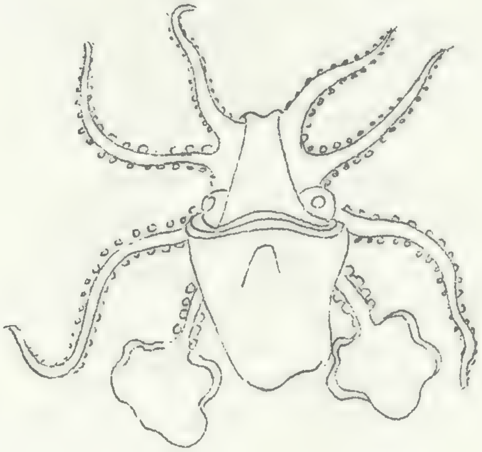
In Stanley Sokoloff's report on his Bermuda trip, he told us that a medical laboratory there was working with Strombus gigas in connection with arthritis studies, the scientists having perceived a possible relationship between the slime of Strombus gigas and the fluid which lubricates our joints. (Hm-m-m. Evolution?)

dr

OBSERVATIONS OF LIVING ARGONAUTA

Reprinted in the "Annual Report Smithsonian Institution, 1916", at the conclusion of "The Squid and Octopus--Bartsch", were these extracts from an article published by Charles Frederick Holder in Volume 15, No. 4, 1909, of "Country Life in America". Mr. Holder's article was entitled "First Photographs Ever Made of a Paper Nautilus". We haven't seen the photographs, but the verbal description is exciting:

"The term paper nautilus suggests the dainty structure in which the animal lives at times--a fragile, involuted, vase-like object, deeply fluted and coiled, the keel or edge sharp, having double points, while all over the calcareous and pearly shell are deep graceful and branched radiations. The general color is a delicate gray, the opening in the side of nacre, heavily coated, in sharp contrast to the horny translucent shell paper. The keel is tinted a rich brown that often extends an inch or two up the side of the shell, which may be 2 or 8 or 9 inches across.



"The shell is not to be compared with the ordinary covering of mollusks, as it is not essential to the animal; it is only a dainty object having the shape of a shell, formed by the animal for the protection of its eggs. It is, then, a nest and in no way connected with the animal, as in the case of the pearly nautilus, where the animal forms partitions as it grows and is connected with them all by a fleshy pedicle or cord. The paper nautilus can dart out of its fairy ship at a second's notice.

"Glancing into the shell we may see a yellow bunch of miniature grapes hanging from the interior wall--the eggs--and perched in front of them is the argonaut, looking very much like an octopus or devilfish. From the number of empty shells found upon Santa Catalina beaches in winter and summer it might be assumed that the argonaut deserts the shell at times and lives a roving, octopuslike life.

"In appearance it is one of the most beautiful of all animals as it rests in its shell, trembling with color as waves of rose, yellow, green, violet, and all tints of brown are continually sweeping over it, now irised in the most delicate shade of blue, now brown or green changing to rose, vivid

scarlet, or molten silver. So sensitive is it that every convulsive movement of the mantle of my paper nautilus in taking water to breathe and forcing it out of the siphon caused a wave of color to pass over the entire body. When the water was taken in the color cells contracted, leaving it pale for a fraction of a second; when it was forced out they evidently relaxed and the entire surface was suffused with color to disappear as quickly, giving a continuous heat-lightning effect.

"Of the three living specimens that I have kept in confinement one was 4 or 5 inches long, another 8 or 9. The small one was extremely active, leaving its shell to crawl about its prison and darting back with great agility, directing its funnel backward at the cluster of eggs hanging in the interior of the shell, always paying the most assiduous attention to them to prevent the intrusion of any parasite or enemy.

"It would recline against the weed-covered rock watching me or eyeing my hand as it moved about, blushing, paling, displaying remarkable sensitiveness, and when I touched the shell would protest by pumping violently, shooting the shell backward and, if I held on, aiming the siphon at my hand and pumping water at it, on one occasion filling the water with an extraordinary volley or cloud of ink. But ordinarily this argonaut did not resent my friendly advances and when touched it would twine its tentacles about my fingers, hold them closely, and rise partly from the shell, the big black and silver staring eye evidently watching every movement.

The speed with which the argonaut could move backward, propelled by its siphon, was remarkable when seen from the side, but when it was observed from behind it was seen to be a perfect racing machine; the sharp keel of the shell covered by the extraordinary velamentous arms presented a perfectly smooth surface, and the slightest current from the siphon was sufficient to send it along, the entire animal being concealed, the tentacles not trailing behind, as often described. When the argonaut left the shell it crawled about in the position of an octopus, mouth down, but when in the shell its favorite position apparently was with its mouth pointing directly upward, the two dorsal or upper arms thrown back, or it would fasten itself to the glass of the tank by the two large arms and gradually expand them until they were as large as the shell itself, presenting a rippling ultramarine blue on the outer side and iridescent frosted silver on the other."

ABOUT 200 A. D., CLAUDIUS AELIANUS BLENDED FACT AND FANCY. IX. 34.:

"The Argonaut also is one of the polyps and has one shell. Now it rises to the surface by turning its shell upside down to prevent it from taking in salt water and being thrust down again. And when it is on top of the waves, if the weather is calm and the winds are at rest, it turns its shell (which floats like a boat) on its back, and letting down two tentacles, one on either side, with a gentle motion rows and propels its natural vessel. And if there is a wind it extends still further what up till now were oars, using them as rudders, and raises other tentacles between which there is a web of most delicate texture, and this it spreads and turns into a sail. And in this way it navigates so long as it has nothing to fear. If however it is afraid of some of the larger and stronger fish, it submerges and fills its shell and escapes from its enemy. Then when it has peace again it rises and resumes its sailing. It is from these activities that it derives its name."

. . . C. B. Schmitt

CONCHOLOGICAL INTERVIEWS - Part 2.

WILLIAM J. CLENCH and RUTH D. TURNER at the MUSEUM OF COMPARATIVE ZOOLOGY

by Henry S. Gordon

(The first section of this article appeared in NOTES No. 78, Jan. 1962.)

Not long ago Clench found himself in the capacity of encyclopedia contributor. For the 15-volume "McGraw-Hill Encyclopedia of Science and Technology" he wrote the entries on eleven subjects, including: Mollusca, Pelecypoda, Gastropoda, Prosobranchia, Opisthobranchia and Pulmonata. Even more recently he contributed the "Shell" article for Reinhold Publishing's comprehensive "Encyclopedia of the Biological Sciences".

BUT THE LEARNING CAME FIRST: In back of all this scholarly production had to be a prodigious amount of preparation. In both Clench and Turner's cases, however, the beginning did not anticipate the end.

Clench's first degree was a B. S. from Michigan State University, with a major in horticulture. He then acquired an M. S. in entomology from Harvard, followed this with further study at the University of Michigan culminating in a Ph. D. in zoology. (Even more academic distinction has come via an honorary D. Sc. from Michigan State.)

Clench has traveled widely, backing up the benchwork with field trips to Hawaii, Cuba, the Bahamas, Hispaniola and over the U. S., particularly the Southeast. This past summer found him down south collecting freshwater shells in Georgia rivers. These were the St. Marys, Satilla, Altamaha, Ogeechee and Savannah. Two of the rare species of Unionidae, *Elliptio spinosus* Lea and *E. shepardianus* Lea were found alive in the Altamaha River, the only place where they occur.

Ruth Turner received her B. A. at Bridgewater State Teachers College, (Mass.), then a master's at Cornell, majoring in ornithology. A teaching career took her to Vassar where she instructed in ornithology and animal conservation. It was while here that she first met Clench. One of her assignments was to revamp the mollusk collection in the Vassar museum. Knowing little about how to proceed, Turner contacted MCZ, scarcely aware it would be her address before long.

This was during the war, and the W. F. Clapp Laboratories needed a draft-exempt researcher to work on shipworms. The Navy was all too familiar with the havoc wrought by the Teredinidae on piers and docks, and realized that research on the problem had to be greatly stepped up. Bolstered by Clench's recommendation, Turner was given the assignment.

It was her job to study test boards. These were flown east for her investigation. Thus began a continuing study that has made her a world-leading authority on marine borers of all kinds.

After 14 months at Clapp Laboratories, Turner joined Clench at Harvard (where she later acquired her Ph. D.). Their association has been a rewarding one, eg., JOHNSONIA. But she also does much independent work for the department. In 1960 she took the Grand (malacological) Tour of the Continent, spent two months visiting curators of the leading natural history museums in Britain, France, Holland, Germany, Italy and Denmark.

This past summer she spent much of August and September in Hawaii attending the Pacific Science Congress and studying the collection of Teredinidae brought together by Dr. Edmonson of the Bishop Museum. In addition, she visited several institutions in California and Vancouver.

For the modern malacologists, taxonomy is a never-ending concern. Clench thinks a return to lumping is in the cards and there will be a reduction in the number of genera. "Genus is an opinionated thing," he claims, "why create new genera when there are too many names now?" He notes that both he and Turner are conservatives, tend to lump rather than split.

In a direct question and answer session, Clench elaborated on some questions of taxonomy.

Question: Do you observe the law of priority?
Answer: We attempt to follow the law of priority as long as it doesn't add to the complexity of names. If two names of a single species are involved, the earlier name is used. If someone uncovers a name long since forgotten that is earlier than the presently accepted and widely used name, the International Commission would be prevailed upon to suppress the earlier name in favor of the later name.

Q. Do you feel that the recent emphasis on various characteristics other than shell morphology alone, i. e., radular studies, sexual parts studies, chromatographic analyses of fluids, etc., will bring about excessive naming of species or confuse accepted nomenclature?
A. In time, all these methods will tend to stabilize the science considerably. Our concepts right now are much better than they were say 25 years ago. Today there is full agreement in many areas.

Q. What is a species? What is a subspecies?
A. A species is a population or a group of populations that can factually or potentially interbreed; a subspecies, generally, is an isolated geographical unit different enough to warrant a subspecific name.

The modern concept is vastly different from the old when every minor difference, no matter how slight, was considered a good enough reason to make a species name.

Q. How does a malacologist go about describing a new species of mollusk?
A. You obviously begin by finding the shell. Assuming you know the genus, it is then your job to delve into the past literature to uncover all known species. This research includes not only classic works such as Tryon-Pilsbry, Say, Kiener, etc., but also thorough investigation into the more recent literature, as well as a good look at the "Zoological Record".

Q. What is the "Zoological Record"?
A. It is an annual catalog, published from 1864 to date, of all legitimate zoological descriptions and miscellaneous studies undertaken. In addition to the author and subject, the journal of original citation is given, so that anyone interested in a particular name, region or type of study can be referred directly to the place where it has been written up.

But returning to the description of a new species: assuming that nothing has been reported on the specimen you have at hand, you write it up -- omitting no details and pointing out features that either

associate it with or disassociate it from all species that may be allied.

Finally, you must seek a source of publication. There are various acceptable journals such as the NAUTILUS, JOURNAL OF CONCHOLOGY, OCCASIONAL PAPERS. But let me emphasize that, in general, mimeographed descriptions are not acceptable.

What guarantee is there that a correctly published description will be accepted?

If the description follows the rules, the name is accepted and will remain so unless someone later discovers that it had been previously described under another name.

As one last question, we'd like to know, Drs. Clench and Turner, just what is the biggest problem you face at this time?

(Turner): The work I'm involved with in classifying the pelecypods. It's a gigantic project.

(Clench): Trying to accommodate the overwhelming number of requests we get from both professionals and nonprofessionals to furnish information, shells, our time, and just about everything else. We are sorry to have to turn down many requests, but we simply are not equipped to handle such a volume of work.

(Clench and Turner, nevertheless, very generously gave the writer several hours of their time.)

SHELL CLUBS OF NEW ENGLAND TO THE MIDWEST

SION MALACOLOGICAL CLUB Mrs. Gladys McCallum, Sec'y Concord Road Westford, Mass.	Meets at the Museum of Comparative Zoology, Cambridge 38, Mass., on the first Tuesday of each month, October through May, at 8:00 P. M.
CHOLOGICAL SECTION, BUFFALO IETY OF NATURAL SCIENCES Mrs. V. S. Vallone, Sec'y 142 Schlemmer Road Lancaster, New York	Meets at the Buffalo Museum of Natural Sciences on the third Friday of each month, July, August and December excepted, at 8:00 P. M.
ECTICUT SHELL CLUB c/o Mr. Percy A. Morris Peabody Museum New Haven, Conn.	Meets at the Peabody Museum on the second Friday of the month.
ECTICUT VALLEY SHELL CLUB Helen B. Burt, Sec'y 190 Homestead Blvd. Longmeadow 6, Mass.	Meets at the Museum of Natural History, 236 State St., Springfield, Mass., on the second Monday of each month.
EATER ST. LOUIS SHELL CLUB c/o Mrs. Charles Novak 3456 Keokuk Street St. Louis 18, Missouri	Meets monthly at a member's home.

additions or corrections to this list will be gratefully received.)

SHELL CLUBS OF THE PACIFIC COAST, HAWAII AND TEXAS

CONCHOLOGICAL CLUB OF SOUTHERN CAL. Mrs. Helen DuShane, Sec'y 3552 Hollyslope Road Altadena, California	Meets in the auditorium of the Los Angeles Co. Museum, Los Angeles, on the first Monday of each month. Member co-op. publication "News of the Western Association of Shell Clubs."
LONG BEACH SHELL CLUB Ralph Bormann, Sec'y 4331 Vermont Street Long Beach 14, California	
NORTHERN CAL. MALACOZOOLOGICAL CLUB c/o Mary R. Larson 2112 Gill Drive Concord, California	Meets the first Tuesday of each month 8:00 P. M. room 4005 Life Sciences Bldg., Univ. of Cal., Berkeley, Cal. Publishes quarterly "The Veliger" and "News of the Western Assoc.Shell Clubs"
PACIFIC NORTHWEST SHELL CLUB Mrs. Elsie Marshall, Sec'y 2237 N. E. 175th Street Seattle 55, Washington	Meets the 2nd Sunday of every 2nd month. Mimeo paper: "Pacific Northwest Shell News".
PACIFIC SHELL CLUB c/o Los Angeles County Museum Los Angeles, California	Meets at the Los Angeles Co. Museum, Los Angeles, on the 3rd Sunday of the month, October through May. Member co-op pub. "News Western Assoc. S.C."
SACRAMENTO VALLEY CONCHOLOGICAL SOC. c/o Florence La Fayette 5349 Robertson Avenue Carmichael, California	Club publication, "The Collector".
SAN DIEGO SHELL CLUB c/o Kay Webb 730 Date Avenue Chula Vista, California	Member of cooperative publication "News of the Western Association of Shell Clubs".
HAWAIIAN MALACOLOGICAL SOCIETY Mrs. Elizabeth Harrison, Sec'y 2777 Kalakaua Avenue Honolulu 15, Hawaii	Meets at the Waikiki Aquarium the 1st Wednesday of each month, 7:30 P. M. Publishes "Hawaiian Shell News" each month.
KAUAI SHELL CLUB c/o Mrs. John Humme Kapaa, Kauai, Hawaii	
COASTAL BEND SHELL CLUB c/o Sec'y Magaw 634 Pennington Corpus Christi, Texas	Meets at the Corpus Christi Museum on the 4th Tuesday of the month, at 8:00 P. M.
GULF COAST SHELL CLUB Mrs. J. B. Bishop, Sec'y 2245 Wilson Beaumont, Texas	Meets on the first Monday of each month.
SAN ANTONIO SHELL CLUB N. E. Mahavier, Sec'y 234 East Woodlawn Ave. San Antonio, Texas	Meets at the Laurel Heights Methodist Church on the fourth Monday evening. Quarterly publication, "Texas Shell News".
SURFSIDE SHELL CLUB c/o Mrs. Mildred Tate 211 Huisache Street Lake Jackson, Texas	
SOUTH PADRE ISLAND SHELL CLUB c/o Mrs. Kenneth Hughes P. O. Box 335 Port Isabel, Texas	

EW YORK SHELL CLUB NOTES No. 80 March 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

riing Sec'y
LIAM E. OLD

Historian
NICK KATSARAS

rresponding Sec'y
MC DOUGALL
axter Avenue
Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

ditor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

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e NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September rough June, in

ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

EXCEPTION TO SCHEDULE:

UR NEXT MEETING, APRIL 8th, WILL BE FOR AN AUCTION OF SHELLS TO BE ELD AT THE BROADWAY DANCE STUDIO, 31-08 BROADWAY, ASTORIA, L. I.

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ese NOTES are distributed by mail, free of charge, to both regular and rresponding members of the NEW YORK SHELL CLUB. Dues: Full membership per year, $1 for each of other members of the same family, with one y of NOTES per family. Corresponding membership $2 per year. Items articles for publication are welcomed by the NOTES and should be sent the EDITOR. Notify Corres. Sec'y promptly of any change in address.

R AUCTION NEXT MONTH will offer a variety of shells ranging from the re common ones for beginners to such rarities as:

aea magnifica
us aurisiacus
   bullatus
   dominicanus
   granulatus
   ranunculus
   recurvus (very large)
raea stercoraria
   sulcidentata (2 perfect
mples from Hawaii.)

Cypraea mus (2 specimens)
Mitra coccinea
" tesselata
" zaca
Murex cornutus
" saxitilis
Patella mexicana (extremely large)
Scaphella junonia
Tegula regina

Studio will be open at 12:00 noon. The auction is scheduled for 1:00 ., and there will be an intermission of a social hour with refreshments.

LING DIRECTIONS: Only a twenty-minute ride from Times Square, the y Dance Studio is easily reached by the B. M. T. LINE, ASTORIA TRAIN e BROADWAY STATION. The Studio is on the second floor of the House- inance Building, corner of 31st Street and Broadway, in plain sight ou exit from the B. M. T. station. We'll hang out our flag. If you sing the I. R. T. Line, take the Flushing train to Queensboro Plaza ange there to the Astoria train of the B. M. T. Line. About three

three stops beyond Queensboro Plaza. For those of you using the 8th Ave. Independent Line, take a Queens train ("E" or "F") to Queens Plaza, change to the local "GG" train to Steinway Street. From this station it is 3 short blocks from the subway exit at Steinway and Broadway. Walk or take the bus up Broadway (in a northwesterly direction) to 31st Street.

For you who are driving, a check with your map will show you that the area is easily reached. There is parking space available when you get there.

And our thanks to the Jensens, who are making their studio available to us for this occasion!

THE OCEANOGRAPHIC SYMPOSIUM to be held March 31st at the Staten Island Museum, 75 Stuyvesant Place, St. George, will have afternoon and evening sessions only, and not the morning session as originally planned. Miss ingartner tells us that Dr. Ruth Turner is unable to speak as scheduled. However, she tells us that the well-known M. Karl Jacobson, author, lecturer, past president of the A. M. U., co-founder and past president of the NYSC, will speak at the afternoon session. His topic: "Mollusks".

A LETTER TO THE NEW YORK SHELL CLUB:

On behalf of the American Malacological Union, I should like to extend to the members of the New York Shell Club a cordial invitation to attend The Twenty-ninth Annual Meeting of the Union at St. Petersburg, Florida, July [illegible] - August 3, 1962. The St. Petersburg Shell Club will act as co-host together with the Florida Presbyterian College, where meals and housing in air conditioned dormitories will be available for $5.00 per person per day.

Now is the time for considering your plans for the summer. Why not include the meeting in your summer schedule? This is a wonderful opportunity to meet fellow collectors and enjoy a varied program of scientific and popular lectures. The region enjoys a reputation as a shell collectors' paradise and the area abounds in beautifully preserved fossil mollusks. Plan to make up a party and join in the fun!

While members of the Union will receive formal notification of the meetings, guests are welcome and should write to:

The American Malacological Union
c/o Mrs. Margaret C. Teskey, Sec'y-Treas.
Route 2, Box 318
Marinette, Wisconsin

I'm looking forward to greeting those members of your organization who can attend the meeting.

Sincerely yours,

WILLIAM K. EMERSON

President, The American
Malacological Union.

SHELLING IN THE INDO-PACIFIC

One of our favorite personalities, Miss Virginia Orr of the Academy of Natural Sciences of Philadelphia, was guest speaker at our January meeting and gave us a very special afternoon. Miss Orr has been a part of many of the Academy-sponsored expeditions in connection with their long range program on INDO-PACIFIC MOLLUSCA, and she took us, via color slides, to various collecting areas and their living mollusks.

First she showed us a map of the Indo-Pacific area, with expedition points spotted across those vast waters from the tip of South Africa eastward to Easter Island in the Pacific. At Cape Agulhas, the southernmost point of Africa, the water temperature of 60° will not support the Indo-Pacific fauna. However, only a short distance up the coast the first Indo-Pacific species appear -- Cypraea caputserpentis, Conus ebraeus, Conus lividus.

Mauritius, one of the most beautiful islands, has been encircled with collecting stations, but still has not been fully covered. Cypraea mauritius, anyone? In one to three feet of water you can gather as many as you wish. Here, also, are some mollusks that don't quite conform to general ideas: A clam that has a creeping foot and both a posterior and anterior siphon -- fascinating little creature only one-half to three-quarters of an inch in length, a Scintilla species. The anterior siphon next the foot is used much the same way the Nassarius uses its siphon, and seems to be chemo-receptor inhalant. Another unusual mollusk was a limpet with long Nerite-like tentacles and gill feathers. . . Perhaps you've heard that "One of the things you never see are Bullas at night." So Miss Orr collected 12 live ones in one-half hour of night shelling!

On the subject of night collecting, she told us that if we plan to do any we shouldn't be too casual about it. Always have a light on shore, or on the boat if you are working from one. Shell with a companion -- one of you to carry the lantern, the other to pick up shells. Carry, also, a flashlight for insurance -- shadows and holes look alike by the light of the moon, and one "dunk" can put the lantern out of commission!

Pictures taken near Broome, Australia, showed miles and miles of flat desert. Here the trips to the coastal shelling stations had to be timed to a working period of only two hours. Low tide exposed only briefly miles of flats with rocks and pools before the incoming tide, accompanied by sharks, would flood the area dangerously fast. But those mollusks! There were Cypraea moneta sporting a black and white mantle fringe, Cypraea lutea with its red foot and 'hairy' red mantle, Cymbium amphorus with a brown and white ringed pattern on its foot, Amoria grayi with striped mantle and a highly patterned proboscis. The shells alone are beautiful, but the shells with their living animals are even more intricately beautiful. A picture is, indeed, worth a thousand words!

Photographed in New Caledonia were the carnivorous chiton, Cryptoplax burrowi, Conus marmoreus in all the regular shades plus plain white, and the interesting little Capulus danieli. These Capulus, of a rich carmine color, were found clinging to pectens, their scalloped edges fitting neatly into the ribs of the pecten. Filter feeders, they sat at the edge of the pecten valves taking advantage of the inhalant siphon of the pecten, and were also observed to pick the mantle fringe with their long proboscides. One had found an easier way -- it drilled a hole in the pecten valve over the area of the pecten's food receptor, and ate happily from a full table.

We have been able to note here only a few items from the presentation, but Miss Orr's pictures of living mollusks -- from the first, a Cypraea caputserpentis with its beige foliate mantle, to the last slide, of Aplustrum aplustre with the little creature seemingly enveloped in white floating veils over which peeked two tiny black eyes -- have made us feel that every shell in a collection should be accompanied by a picture taken in life.

dr

The following article is printed in its entirety as it appeared in "News of the Western Association of Shell Clubs" Vol. 2, No. 3, Jan. 1, 1962:

DESERT SNAIL JUICE -- EMERGENCY DRINK

In Farnsborough, England, a Flight Lieutenant of the Royal Air Force Institute of Aviation Medicine, simulating conditions of a desert crash (shut in a chamber where the temperature sometimes soared to 118° F.) conducted a test on the possibility of using the juice of a snail to ward off thirst in the desert.

Helix ehrenbergi Roth, a large white snail, abundant in the Negev desert in southern Israel or in the scrub desert along the North African coast, has proven its value as a thirst quencher.

The shell contains as much as a half teaspoonful of body fluids, which is said to taste rather fishlike.

The Lieutenant who made this test, drinking four pints a day for four days, claimed to be a bit weak at the end of the scheduled time, but mentally alert and quite happy.

- - - - - - - - - - -

This much for the account in our esteemed contemporary. But as we are of an incurable Missouri temperament, discussion was inevitable. One of our members (D. Raeihle) looked into the mathematics of the thing, and this is what she came up with:

Using the measuring table in my cookbook, which gives 3 level teaspoons to 1 tablespoon, and 16 tablespoons to a cup, I have figured:

> 192 snails per pint of juice x 4 = 768 snails per day, x 4 (days) = a total of 3,072 snails, and this if every snail had a full one-half teaspoonful of juice.

(1) Are these Helix so numerous anywhere that that many shells could be collected?

(2) Couldn't he have eaten the meat, too?

(3) What happened to the shells?"

In answer to the questions:

(1) I doubt it. Desert snails are hardly ever that numerous, especially good hefty fellows like ehrenbergi.

(2) Of course, even if he isn't French.

(3) Wish I knew.

mkj

FROM FLORIDA: Our member, Mrs. H. M. Bixby, who spends her winters on legendary Captiva Island in Florida, has sent us a copy of a neat little, green bound publication of the Sanibel-Captiva Shell Club called SHELL HANDBOOK: CONSERVATION, COLLECTING, CLEANING. The pamphlet has a nicely printed cover (with a picture of Fasciolaria tulipa) and contains about six pages of text, plus one graphic cartoon portraying a "shell hog", a real honest-to-goodness porker carrying four overfilled baskets of shells while he greedily eyes more shells lying on the beach. The lesson here, of course, is conservation. As the booklet puts it: "Take only what you can properly use, clean, and display and leave the rest to grow and reproduce so that there will be shells for future generations to find and enjoy."

Naturally, this does not apply to already dead beach shells, but does apply very much to "taken-alive" specimens. These ideas add a point to the emotional one that was made recently in these NOTES regarding taken alive collecting. Not only should all material be properly labelled so as to be of real use to museums and students in the distant future, but, as the "Sanibellers" point out, enough should be left for propagation.

The booklet also contains useful hints on cleaning and preserving and ends up with a warm invitation to visitors to join the Club. All in all, a handsome, useful little publication.

mkj

THE QUESTION BOX furnished a lively half-hour discussion at our February meeting. To sum it up:

#1. What is the definition of a mollusk? It takes a bit of study, especially now that Neopilina has been discovered. A serviceable definition used to be: a soft bodied, unsegmented invertebrate, provided with a mantle cavity. Since the discovery of the uncomfortable deep-sea cap-like animal, we have to change the word segmented, because Neopilina definitely shows signs of segmentation. We wish we could say that the characteristic organ of a mollusk is the radula, but unfortunately the large class Bivalvia does not have one. This leaves us with the single universally possessed characteristic of the mantle cavity, and apparently that is the only organ that will enable us to put an octopus and an oyster into the same group. Naturally many zoologists are not at all happy about this. It should be pointed out that the shell, for us the most important part of the animal, is not found in large numbers of true mollusks, but is found in the non-molluscan group of brachiopods as well as other animals, such as an egg. Hence unless we are ready to add a wearisome description of a "typical" molluscan shell (by no means an easy job), we are forced to omit this characteristic from our definition.

#2. The terms anterior and posterior used in shell descriptions will not be confusing if it is remembered that anterior, the part that goes before (like in penny-ante), and posterior, (post) that part that comes after (like the horse was left at the), refer to the position of the living animal as it moves along. For univalves the spire is the posterior part, the aperture the anterior. In clams it's a little harder to tell, unless you watch one walk along. But there are good discussions of this point in several shell books, and particularly in the recently published SHELLS OF THE NEW YORK AREA (advt.).

#3. Question: What is the best varnish to use on a shell? (The editors

think this question was asked "sarcastic" but we give it a sober answer.) Don't! Don't gild the lily and don't besmirch the mollusk! Use no (repeat NO) varnish, shellac or lacquer to give luster to that dull specimen. And don't follow the advice of the widely spread (though thank God now out of print) Handbook that describes a hot acid bath to shine up a shell. Even if you come out of the experiment with two undamaged optics and with no more than one or two bad hand and face burns, you have a worthless specimen, deprived of all the beautiful and important fine surface sculpture. If you think you can fall in love with the bleached skeleton of a Sophia Loren (no harm meant), then acid-bathe your shells. Otherwise don't. Most generally acceptable practice is the applying of a small smidgeon of baby oil on a piece of cotton, then wiping off as much of it as possible. This is legitimate practice because it merely restores, without exaggerating, the original color that may have faded away in the drying out.

mkj

ABOUT SOME FOSSILS

Albert Taxson made a return visit to the Smithsonian especially to photograph the Paleontology Department's exhibit of fossil mollusks, and showed the resulting slides at our February meeting. We saw this exhibit last June when in Washington for the A. M. U. Meeting and, in addition to the technical aspects of the exhibit, they have some really out-of-this-world specimens on display: We were agape at one shell that was 8 feet long -- and still a juvenile. Another jaw-dropper was a coiled shell about 3 feet in diameter. There were colorful reconstructions of the life of the sea bottom of those eons ago, with nautiloids, tusk shells, squids, trilobites, queer crustaceans, anemones, etc. As we looked at the exhibit, it took a little readjustment of the mind to realize that most of these marine fossils had been uncovered in places we'd never now associate with the sea -- Montana and Wisconsin, for instance.

At another meeting "Mike" Lerner showed us some slides he had taken on a fossil hunt down in Virginia. He found fossil marine mollusks in the bank just above the water line of the Potomac River at Marlboro Point, about 15 miles east of Fredericksburg. . . And Bill Old showed us a beautiful Miocene specimen, Voluta solitaria Conrad, still with color and gloss, that had been found at Cobham's Wharf, Virginia, in the side of a cliff about 5 feet above the waters of the James River. . . Pecten madisonius was a prize we brought back from Scientists Cliffs, Maryland, on the lower western shore of Chesapeake Bay, where erosion washes many of the shells right down to the beach. . . Occasionally found on our own Rockaway Beach is fossil Mercenaria campechiensis that have been washed ashore from some unknown depths.

The beautifully preserved fossils of the Caloosahatchee Basin in Florida (mentioned in Dr. Emerson's letter on page 2) offer good shelling without having to watch tide schedules or water conditions.

THE GIANT AFRICAN SNAIL: A PROBLEM IN ECONOMIC MALACOLOGY

By Albert R. Mead, Professor and Head of Department of Zoology, University of Arizona. We quote from the publisher's announcement just received: "...This valuable reference book...will serve as an essential and complete guide in the needed effort to combat a grave, increasing threat." 300 pp. $7.50, The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill.

Most of the Shell Clubs on our list are affiliated with the American Malacological Union, a scientific society that we might call our parent organization:

AMERICAN MALACOLOGICAL UNION
Mrs. Margaret C. Teskey, Sec'y
Route 2, Box 318
Marinette, Wisconsin

AMERICAN MALACOLOGICAL UNION, PACIFIC DIV.
Mrs. Lucille Zellers, Sec'y
714 Elm Street
Cerrito 8, California

In 1962 the four-day annual meetings will be held at St. Petersburg, Florida, July 31-August 3, and at Asilomar, California June 27-30. Publications: Annual Report, "How to Collect Shells" - a symposium.

SHELL CLUBS OF OTHER COUNTRIES:

SOCIEDAD MALACOLÓGICA DEL URUGUAY *
Mr. Eliseo Duarte, Sec'y
Casilla de Correo 1401
Central, Montevideo
Uruguay

SHELL CLUB OF THE RYUKYU ISLANDS *
c/o Bernice Albert
U. S. Army Engineer Group
Bldg. and Grounds
A. P. O. 311
San Francisco, California

ASSOC. OF PHILIPPINE SHELL COLLECTORS *
Mrs. Carmen Roces-Davila, Pres.
1704 A. Mabina
Ermita, Manila
Philippines

"CORAL CREEPERS" (Guam Shell Club)
John C. Donnelly, Sec'y
U.S. Naval Hospital, Navy #926
c/o Fleet Post Office
San Francisco, California

MARIANNA SHELL CLUB
c/o Melvin B. Compton
18 N. Columbus
Tipalao, Guam

FIJI SHELL CLUB *
c/o Fiji Museum
Suva, Fiji

NEW ZEALAND SHELL CLUB *
c/o New Zealand Shell News
43 Mt. Albert Road
Auckland, New Zealand

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* Denotes a monthly or quarterly publication by the club, usually mimeographed.

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MALACOLOGICAL SOC. OF AUSTRALIA *
Miss M. M. Murray, Librarian
C/-13 Gaynor Court
Malvern S. E. 4
Victoria, Australia

THE ROYAL SOC. OF SOUTH AUSTRALIA
MALACOLOGICAL SECTION
Mr. R. Hall, Sec'y
9 McCrea Street
Prospect, Adelaide
South Australia

MALDIVIAN HOBBY CLUB *
Tuladuge Abbas, Gen. Sec'y
Malé
Maldives

THE TANGANYIKA SOCIETY
P. O. Box 511
Dar es Salaam
Tanganyika
East Africa

SOUTH AFRICAN CONCHOLOGICAL SOCIETY
Mrs. L. Kerr, Sec'y
'Ryde Villa'
Kenilworth Road, Kenilworth
Cape Town, South Africa

NETHERLANDS MALACOLOGICAL SOCIETY
Nieuwersluisstraat 67 **
The Hague, Netherlands

FONDATION CONCHYLIOLOGIQUE DE BELGIQUE
c/o P. Beyst
15, avenue de l'Ermitage
Rhode St. Genese, Belgium

MALACOLOGICAL SOCIETY OF LONDON
c/o Miss Joyce E. Rigby
Department of Biology
Queen Elizabeth College
Campden Hill Road
London W. 8, England

The British scientific organization is:

THE CONCHOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND **
British Museum of Natural History
Cromwell Road
London S. W. 7, England

** Scientific journal.

NEW YORK SHELL CLUB NOTES No. 81 April 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 13th, 1962, at 2:00 P. M.

PROGRAM: COLLECTING IN EASTERN CANADA, presented by Harold Feinberg, with color slides.

Shell-of-the-Month by Nick Katsaras.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

ANNUAL FIELD TRIP JUNE 2nd ! ! !

By special permission of Dr. Lionel Walford of the Sandy Hook Marine Laboratory, U. S. Fish and Wildlife Service, the NYSC is enabled to hold their annual field trip and outing this year at Sandy Hook, New Jersey. A tour of the Marine Biological Laboratory will be a special feature of the day's program. There is a possibility that some of the skin divers who work with the laboratory will be on hand and will bring up shells for us -- if they spot any.

The Sandy Hook area is a military reservation and is NOT open to the public. As far as we know, no molluscan records have been taken there for over twenty years, and we are anxious to see how it compares with nearby beaches.

We will have a special pass for this one date only. We will have a chartered bus, and are hoping to arrange passes for private cars as well.

NO CAMERAS will be permitted. Repeat -- Do NOT bring your camera.

Details of schedule, pick-up spots, etc. at the May 13th meeting.

THE OCEANOGRAPHIC SYMPOSIUM held at the Staten Island Institute of Arts and Sciences on March 31st was a part of that museum's 80th anniversary celebration. The auditorium was comfortably filled, and the NYSC was well represented in the audience and on the speakers' platform. Natural Science Curator Mathilde Weingartner greeted us and opened the meeting. The four speakers were most interesting, and gave us a comprehensive idea of the "what and why" of their researches. Dr. Lamar Worzel spoke on "Geophysical Features of the Ocean", with many charts to illustrate his subject. (We found that Neil Petersen's presentation at our February meeting was a good base for helping us understand several of the more technical aspects.) Dr. Edwin Moul's subject was "Plankton, the Soup of the Ocean", and he was able to make this writer understand for the first time how oysters and clams and other suspension feeders get their nourishment. Incidentally, when we eat those clams and oysters we are, directly and indirectly, eating of plankton, too!

Carl Jacobson's talk on "The Importance of Mollusca" was instructive and entertaining, and undoubtedly has drawn some oceanographers into an interest in conchology. This was evident by the many questions we heard later as people from the audience were examining the special exhibits of sea life so artistically arranged on the main floor. Dr. Lional Walford spoke at the evening session on "Conservation and Ocean Life", telling us of the work being done at the Sandy Hook Marine Laboratories. We are looking forward to our visit there June 2nd, after which we'll give a report.

dr

NEW PUBLICATIONS:

THE ROMANCE OF SHELLS IN NATURE AND ART
By Louise Allderdice Travers

NYSC member Louise Allderdice Travers has lectured for many years on the marvelously varied aspects of shells and shell collecting -- shells in nature and science; in art, architecture, and the decorative arts; in legend, history, and literature through the ages. She spoke at our club meeting May 4, 1958, introducing us to a field of conchological research that most of us had ignored. She is an artist in decoupage, and there are illustrations of some of her work in this book, which is an outgrowth of her lectures. The noted author Rachel Carson says of THE ROMANCE OF SHELLS: "This is a book of real charm. To read it is almost as refreshing as taking an early morning walk on a beach freshly strewn with shells by the tide. But perhaps it is most memorable for its human interest story of the way a tiny shell transformed the author's life, opening doors upon a new world of endless interest."

The book is of about 145 pages, is illustrated with eight color plates and fifty line-cut drawings. It is indexed, has a reading list, and lists some shell shops. The special Limited Edition of 250 autographed copies with a de luxe binding is going fast. Hurry if you want one of these at $10.00. June 4th is the publication date for the regular edition, which will be priced at $5.00.

Send remittance with your order for ROMANCE OF SHELLS ($10.00 for each copy of special Limited Edition, $5.00 for each copy of regular edition) to M. Barrows and Company, Inc., 425 Park Avenue South, New York 16, New York.

NEW PUBLICATIONS:

SEA SHELLS OF THE WORLD
A Guide to the Better-Known Species
By R. TUCKER ABBOTT

The latest in the Golden Nature Guide Series, this book of 160 pages has 790 illustrations in full color of 562 species. The index lists both the common and scientific names. It is published in both a library edition at $3.50 and a pocket-sized paper back at $1.00. An amazing amount of interesting information is packed into this little volume. Especially good for the budding conchologist, it has many valuable taxonomic notes for the more advanced collector. It was prepared for Golden Press under the editorship of Herbert S. Zim, co-author of the Golden book "Seashores", and illustrated by George and Marita Sandstrom.

We're glad to see this new SEA SHELLS OF THE WORLD, that comes in such convenient sizes. Along with the compact "How to Know the American Marine Shells" (also by R. Tucker Abbott), and our old paper back friend "Seashores" by Zim and Ingles, we have a neat trio for field or vacation luggage as well as for the home bookshelf.

dr

THE COWRY

Volume 1, No. 3 of the English publication "The Cowry" has arrived on these shores. Bill Old has a supply available at 85¢ each.

THE ARMCHAIR COLLECTOR has benefited greatly by the awakening of an intense interest in shelling by native collectors in tropical regions. This is well demonstrated by the appearance on the shell market of such rare shells as Voluta aulica, Conus circumcisus and Cypraea saulae from the Philippines and equally rare shells from other areas. What brought this to my attention was a list received recently from Romeo Lumawig (see Notes #77), showing how comparatively inexpensively a rare shell like Tibia fusus can now be purchased. As I read it I thought of the many faded shells obtained from old collections that I had treasured and which now, alas, appear less than handsome alongside these bright, freshly collected shells.

Also from the Philippines we have word that Mr. Donald Dan, the young editor of the Philippine Shell News, plans to be in New York during the first week in June. We are looking forward to his visit and the opportunity it gives us to reciprocate some of the hospitality that is always showered upon American collectors when they visit the Philippines.

A. D'Attilio

THE PHILIPPINE SHELL NEWS is not as well known among us as it should be. It is an excellent publication of the Association of Philippine Shell Collectors, 159 Kanlaon Street, Quezon City, Philippines. To date it has been a mimeographed quarterly with a photo supplement. However, 1962 plans include offset printing of possibly bi-monthly issues, with illustrations. Membership in the Association, which brings with it the Philippine Shell News, is $3.00 per year.

OUR AUCTION was a grand success -- conchologically, socially and financially. There will be a report at the May meeting.

DR. WILLIAM K. EMERSON has been a guest of the San Diego Museum's expedition to the Vermillion Sea, Baja California, this past six weeks. He sends word that shallow water and beach collecting have been exceptionally good. We're waiting to hear more!

THE SANTA BARBARA NATURAL HISTORY MUSEUM was partially destroyed in a recent fire. Mr. and Mrs. Crawford Cate received word that the mammal collection and the bird collection were entirely destroyed, and that part of the shell collection was destroyed. We have no further details.

THE PACIFIC NORTHWEST SHELL CLUB is pleased to announce that visitors to Seattle during the World's Fair (April 21 - October 21) this year will be able to view an exhibit of Northwest marine shells.

With the cooperation of Jonas Brothers of Alaska, Inc., world famous taxidermists, our Club has set up a display of local marine shells in their store located at 6th Avenue and Pike Street in downtown Seattle just two blocks south of the Monorail terminal.

We hope to have shell craft and specimen shells available for sale here throughout the six months of the World's Fair.

Our Shell Fair is scheduled to be held at this location later this year.

So if any of you are planning a trip to Seattle we hope your plans include a visit to Jonas Brothers of Alaska, 6th and Pike, easily found, just look for the Polar Bear over the entrance!

Respectfully,
Thomas C. Rice, Editor NWSC News

Ed. Note: Mr. Rice's letter with his cordial invitation included a word picture of Jonas Bros. store. Everything from gold nuggets to bear skins. Now there are shells, too! Save time for the Fair!

COLLECTION OF SHELLS SLATED AS PURCHASE FAIR HIGHLIGHT. Thus reads the headline on a newspaper clipping sent to us (which newspaper, we do not know). The article reads: "The unusual collection of shells on display in the Purchase Community House will be one of the main features at this year's fair, on May 19. . . Francis E. Wiederspahn, teacher of Biology at Rye High School, will lecture on the shells, and their part in this year's theme 'Oceans of Fun.'. . . . A childrens fashion show, and a three-demensional mermaid also will be viewed."

One of the collections on exhibit will be that of NYSC member Mrs. Robert Manuel, of Rye, New York.

We're curious about that mermaid.

THE STATUS OF CONUS FUSCATUS BORN

By Anthony D'Attilio

In a personal communication of Feb. 5, 1962, K. J. Grosch of Mozambique Cidade, Portugese East Africa, made some observations, based on field studies, of the possible relationship of Conus imperialis and Conus fuscatus. I quote:

"As to Conus imperialis and fuscatus, these are two distinct forms. I understand that these two are considered to be the same species. Our typical local form is the slender one. There also occurs here the other short, blunt form, about one in every 20 or 30 specimens. This form corresponds to the illustrations in the Kira, Hirase, and in Sally Kaicher's Cone books.

I have at present in front of me two long series of the two forms. I would not attempt to give a description of the characteristics which distinguish them, that is, their differences of design or color pattern. However, they are different and obviously so, although you can't even try to put it into so many words. However there is no mistake possible. Even if I cover base and spire so that only the remainder of the shell shows, the forms are immediately recognised.

In the following table some differences are indicated:

FUSCATUS	IMPERIALIS
Long, slender,	Short, blunt,
Average length 60 mm. (measured without spire, from coronation to base.)	Average length 45 mm. (measured without spire, from coronation to base.)
Average width 31 mm.	Average width 45 mm.
Average cone taper 20 degrees.	Average cone taper 30 degrees.
Points of coronation outward bent and consequently straight shouldered.	Points of coronation inward bent and consequently round shouldered.
Axial pattern pronounced.	Spiral pattern pronounced.
Dark dotted lines not strongly marked.	Dotted lines and interrupted bands strongly marked.
Whitish zones generally tinged with bluish shades.	Whitish zones generally tinged with yellowish or pinkish shades.

The two forms occur in the same general area, although the elongate fuscatus is more often found on higher level around dead rock and coral in sandy mud. The shorter imperialis has so far only been found in cleaner patches of gravelly sand with seaweed but this may be accounted for by the more frequent occurrence and general distribution of the elongate form.

The separation of a large number of mixed specimens into two lots, consisting of imperialis and fuscatus, is done in an instant without hesitation or consideration. There is no doubt about where each specimen belongs, either as to form or design. No doubtful specimens remain nor are there intergrades to be observed. I never came across a shell of short form with weak spiral lines or all axially connected pattern. They may occur somewhere, perhaps, but so far not here."

. . K. J. GROSCH

(STATUS OF CONUS *FUSCATUS* BORN, Continued)

In New York Shell Club Notes No. 43, D'Attilio gave a detailed account of the pattern and coloration of these two cones and in a later issus, No. 47, a note regarding the discovery that the widespread Conus *imperialis* overlapped in its range that of *fuscatus*. The status of Conus *fuscatus* had until then appeared to be that of a good subspecies, at least. The occurrence of Conus *imperialis* on the East African coast led to some doubts at the time even to this fact, and if breeding intergrades were found *fuscatus* would then be little more than a form name.

The Subspecies Concept:

The generally accepted concept of the relationship of a species and a subspecies has been based upon their not occupying the same geographical area, since, otherwise, there would stand nothing in the way of their general interbreeding and consequent loss of subspecific characters in the common genetic pool. If Grosch's observations are correct as to the clear distinctions existing between the two populations existing side by side, it can then be inferred that the two forms have evolved genetic incompatibility, thereby preventing any hybridization. *

Conclusion:

With this knowledge at hand, we believe that Conus *fuscatus* Born should be considered as entitled to the rank of a full species.

* For references to the species concept in zoology see: Ernst Mayr - SYSTEMATICS AND THE ORIGIN OF SPECIES, 1942.

OF SHELL'S SHELLS:

Recently one of our colleagues undertook a trip to Australia. Naturally we dunned her to get us some shells, any shell, from Down Under. Since she knew nothing about shells and probably had more important and interesting things to do, she decided to honor our request in a strange manner. In Australia, it seems, the Shell Oil Co. people, true to their origin as shell dealers, distribute little cards to every customer of their gasoline products. The cards are very much like the cigarette cards that our fathers used to collect. They show colored pictures of the creatures of the Australian fauna, including a number of shells. The shells are well illustrated on one side of the card, and the obverse has a short discussion of the shell shown. Only the "common name" is given. Thus we have pictures showing the saucer scallop, the wonder cowry, the frilled venus (Callianaitis disjecta), the twisted ark (Trisodos tortuosus), the New Holland spindle shell (Fusinus novae-hollandia), the cart rut (Thais succintus), the cloth of gold cone (Conus textile), the burnt murex (M. bruneus), the Tasmanian razor shell (a Pinna), the Tasmanian scallop, the ass's ear (Haliotis asanina), and a few others - 19 in all.

A sample of the comment accompanying each shell is the following, which appears on the volute card (Voluta pulchra): "The prettily patterned Heron Volute is found in the southern waters of the Great Barrier Reef where it occurs only in a limited area around the islands of the Capricorn Group. It is often found in shallow water on calm days, at the beginning of the ebb tide, but at other times it lives below the surface of the sand. It grows 3½ inches long." A series of cards like this must be a strong inducement for beginning shell collectors.

mkj

AN EXCURSION TO BEEF ISLAND

by Gordon Usticke

Beef Island is just off the east end of Tortola, from which it is separated by a narrow channel which can be crossed by a "do-it-yourself" ferry. Its claim to fame is that it has the only level ground for a small airstrip adjoining Tortola, and the shipyard in Trellis Bay where many of the Virgin Island yachts are repaired and scraped.

We flew over from St. Croix in a small four-seater plane -- a pleasant 25 minute flight. After customs formalities, we went in a motor boat to Bellamy Key (in the middle of Trellis Bay) on which a small but attractive hotel is located. I was informed that Strombus pugilis, the real fighting conch, lay in dense masses offshore in 20 feet of water, and also that the big helmet shell, Cassis madagascarensis, was quite easily obtainable -- I collected a nice one nearly 9" long.

After lunch, I went back to Beef Island and started collecting in Conch Bay. There were large numbers of small shells; and, judging by the offshore formation of grasses and coral, an ideal location. I was very pleased to get several of the very colorful Muricopsis rosea, one of the most colorful small shells and rather rare; also a number of the tiny left-handed Triphoras and about ten varieties of Turridae. I also got one gastropod quite different to anything I have seen, though it reminds me of a Japanese shell.

Next morning in Trellis Bay I found quite a variety of pretty small chitons in many colors, also the largest Pisania pusio I have seen -- black, with a thin central band, almost two inches long.

I think that this should be a rich shelling location: Beef Island is protected on the north by Great and Little Camanoe Islands, and on the west by Tortola - the south and east lie on Sir Francis Drake's Channel.

We flew back to St. Croix at 4 o'clock that afternoon, a short and pleasant flight, with a bag full of shells to clean and sort.

IS THERE A LABORATORY WORKER in our group who needs a fine microscope? A change of career plans makes available an unused 1952 Zeiss monocular with revolving nosepiece, 4 lenses, 4 eyepieces. It is for translucent slides only -- even very small shells are not visible under it. A similar Zeiss (new) retails at $600; this one available for $200. If interested, contact Erwin Jausz, 657 Onderdonk Ave., Brooklyn 27, N.Y.; GL. 6-5656 .

MRS. HUGH BRANHAM

We are sorry to learn of the death in Baltimore on April 15th of Mrs. Hugh Branham, well known shell collector and for some years a corresponding member of the NYSC. Known as Marte to her intimates, she and her late husband built a museum near Fort Myers, Florida, to house their extensive collection. In the last few years the collection so meticulously acquired has been dispersed -- a part to another museum, and a part to private collectors. Mrs. Branham was 76 years of age, and was ill only briefly.

Reproduced here is the meeting notice just received from A. M. U. Secretary Mrs. Margaret C. Teskey, Route 2, Box 318, Marinette, Wisconsin. :

MEETING NOTICE!

The 29th Annual Meeting of the American Malacological Union will be held in St. Petersburg, Florida, July 31st through August 3, 1962. Members of the St. Petersburg Shell Club are in charge of all arrangements and have secured housing in the air-conditioned dormitories of Florida Presbyterian College (Maritime Base, 1st Street So., south of 7th Avenue) where $5.00 per person per day will provide room, all meals (except annual dinner) and the use of ample auditorium and lounging facilities. Sleeping accommodations only will be available for early birds the night of July 30th and late stayers the night of August 3rd at the same rate of $5.00 per person. A registration fee of $2.00 will cover gratuities and incidentals. (There may be a slight additional charge for those requiring bus transportation to the various functions.)

Registration from 9:00 A.M. until noon on Tuesday (July 31st), papers in the afternoon and in the morning and afternoon sessions the following two days. The Executive Council will meet on Wednesday evening, the annual business meeting will be first on the agenda Thursday afternoon. The annual dinner on Thursday evening will be different and delightful, and our hosts are planning a surprise event for Tuesday evening. Friday will be devoted to an all day field trip where visitors will have the opportunity to collect at one of the famous shelling areas near St. Petersburg.

All AMU members, their families and friends are urged to attend this meeting. Please complete the reservation blank below and mail NOT LATER THAN JUNE 1st to:

Miss Dorothy E. Hanssler
6431 17th Place North
St. Petersburg 10, Florida

- -

AMU Request for Reservation, 29th Annual Meeting

I expect to attend the meeting and will arrive (date, time)__________

______________by (means of transportation)______________________.

I plan my departure for (date, time)______________________________.

There will be______________in my party. We expect to stay in

Florida Presbyterian College________: have made private arrangements__________. We plan to attend the banquet__________and

field trip__________and will use bus________ own car__________.

(PLEASE LIST NAMES & ADDRESSES OF OTHERS FOR WHOM YOU ARE MAKING RESERVATIONS.)

- -

All AMU members are cordially invited to attend the annual meeting of the Pacific Division June 27-30 at Asilomar, Pacific Grove, California. For details write to: Lucille Zellers, 714 Elm St., El Cerrito, California.

NEW YORK SHELL CLUB NOTES No. 82 May 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

FIELD TRIP: SATURDAY, JUNE 2nd, 1962 (See next page)
NEXT MEETING: SUNDAY, JUNE 10th, 1962, at 2:00 P. M.
PROGRAM: "A Collecting Trip to Porto Rico" by Stanley Sokoloff.
Report on field trip by participating members.
Shell-of-the-Month by Dorothy Raeihle.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

OUR AUCTION ON APRIL 8th put the NYSC on a definitely firm financial footing for the first time in the Club's existence. (We could tell what was happening: as the afternoon progressed, we saw our treasurer's smile grow broader and broader!) We counted 88 in attendance -- members and friends from New York and neighboring states and two members from California. The Jensens' cheerful studio held us all easily, with room to spare.

In addition to the Jensens, so many of our members and friends were so very generous with their donations of material for the auction, and their time and work in arranging and running the affair, that we can't list them all -- but we thank them, every one.

There were shells from around the world and back again: Fossil shells to live-taken, rare shells and common shells. Cypraea sulcidentata was such a bargain that it made us wonder whether the Cypraea collectors were absent, asleep, or broke. The Conus collectors were out in force and appreciated the wares offered, but even here there were "sleepers". Among the cones we recognized a particular specimen of C. bullatus as an old friend. There were gorgonias, silica sponges, literature, a beautiful painting of a Conus omaria and a clever "Self Portrait of a Concho-maniac" assembled from specimens of the flora and fauna of the sea, shell leis and silver-mounted earrings. There was an intermission of socializing over coffee and cake.

Toward the end of the afternoon Tony was relieved by Karl, who auctioned with such a burst of energy that he several times managed to get way ahead of the bidders.

We had a lot of fun, and it was profitable. What more could anyone ask?

dr

THE NAUTILUS

The most important malacological publication in this country, and one of the most important in the world is without doubt the NAUTILUS, a quarterly published at the Academy of Natural Sciences of Philadelphia under the editorship of Doctors H. B. Baker, C. Wurtz, and R. T. Abbott. It is now in its 75th year of publication and hence ranks among the more tried and stable regular malacological periodicals. Fortunate indeed is the owner of the full set, for here is a storehouse of important and interesting lore in which important details can be looked up, valuable works consulted, or a mere idle hour spent leafing through the pages and reading whatever strikes one's fancy. An amazing amount of knowledge can be picked up in this entirely entertaining fashion.

It is true that occasionally rather weighty papers appear dealing with a phase of the science that is of no possible interest to even the most diligent and intelligent amateur. However, every issue has a few articles of interest and some, like the present number (April 1962), have a number of really fascinating papers.

The present issue has the interest of a well written detective story. The first article, by A. A. Olsson and D. R. Moore, deals with a so-called neglected stromb. These students maintain vigorously the validity of Strombus canaliculatus Burry, a species described in 1949 and very much resembling the common S. gigas, but with well formed canaliculate sutures. In the very next article, Dr. R. Robertson discusses the status of this shell, and in a finely reasoned, astutely observed discussion, removes all doubt that the species is actually nothing but a deformed gigas. The careful step by step logical development of the "plot" is worthy of a detective story writer of the first class. It is very much worth reading.

Of just as much interest are the two last articles in this number. In one of them, Rose and John Q. Burch of Los Angeles describe a new species of Oliva from West Mexico. It is called Oliva rejecta, and thereby hangs a tale. As the Burches tell it, they first became aware of the possibility of there being actually two species included in the shells called Oliva spicata by the complaint of Mexican novelty makers that some olive shells do not take a hole easily but shatter to pieces when the attempt to pierce them is made. In time they got to know these shells by merely looking at them and rejected them. Since these rejecta differed consistently from the accepted ones in certain external characteristics, the Burches knew they had a new species in their hands. Another article dealing with this topic is somewhat heavier reading, but of interest nevertheless. Messrs. Donahue and Hardcastle of the University of Southern California subjected the two species to minute x-ray examination and found that the x-ray diffraction patterns differed considerably. As a matter of fact, the characteristic that is revealed in the differing diffraction pattern is the same one that caused the shells to shatter and to be rejected.

In addition to these articles, there are others of worth but rather above the ability of the shell enthusiast. However, even partial understanding of the points elucidated gives one a deeper comprehension of the nature of the science itself.

The NAUTILUS should be in the hands of every collector who has an interest in shells beyond the mere accumulation of pretty specimens. The price is only $3.50 for four issues, one of the better shell buys in these inflated times.

M. K. JACOBSON

SNAILS IN HOT WATER !

The following article came to us in the form of a news release dated April 19th, 1962, from the University of Texas News and Information Service:

Austin, Texas, April -- A colony of minute snails and their invertebrate neighbors, living near an abandoned New Mexico spa in the waters of a thermal stream with temperatures up to 144 degrees, may one day show astronauts how to better withstand the extreme heat of outer space.

Dr. Austin Phelps, University of Texas zoologist who has been making research trips to the stream for 15 months, is searching for the physiological mechanisms which allow animal and plant life to survive--and flourish--in the high temperatures.

He has found tiny snails, less that one-eighth of an inch in diameter, living in a continuous 112-degree environment, and mites which live in 123-degree waters. Most animals cannot exist under such conditions, because the heat coagulates proteins and destroys enzymes in their bodies.

If he can discover the biochemical know-how which provides the mites and snails with their resistance to high temperatures, Dr. Phelps reasons, the knowledge can perhaps be applied to man for longer and more comfortable space flights.

Dr. Phelps makes periodic trips to the stream, some 40 miles southest of Silver City in the mining and ranching country of southwestern New Mexico, bringing collections back to his University laboratory for study and analysis. At the Mimbres Hot Spring he uses as a field laboratory the adobe buildings of a once-thriving resort, defunct since 1931. . .

The Mimbres spring is unusual in that it has a low mineral content, which permits animal life, and because it is not now being commercially exploited. Water flows from the spring at the rate of 80 gallons per minute, cooling as it flows along a stream one-half mile long.

The water itself poses another scientific question. Scientists at the New Mexico Institute of Mining and Technology in Socorro are analyzing the water for Dr. Phelps to determine whether its origin is magmatic (coming from the depths of the earth to the surface for the first time) or meteoric (from rainfall which has gone underground and returned to the surface).

The research is being supported by a National Science Foundation grant.

DR. EDWARD J. KARLIN

The premature death at age 32 of Ed Karlin has shocked and saddened us. He was gregarious and enthusiastic, with an intellectual curiosity that sparked those with whom he came in contact.

An active member of the NYSC since the early months of its existence in 1949, for the last five years he taught in the Biology Department of Ohio's Bowling Green University. As we well know, he was particularly interested in slugs from the ecological point of view, and land snails in relation to plants. He was the author of many papers and articles on these subjects as well as on a variety of other topics.

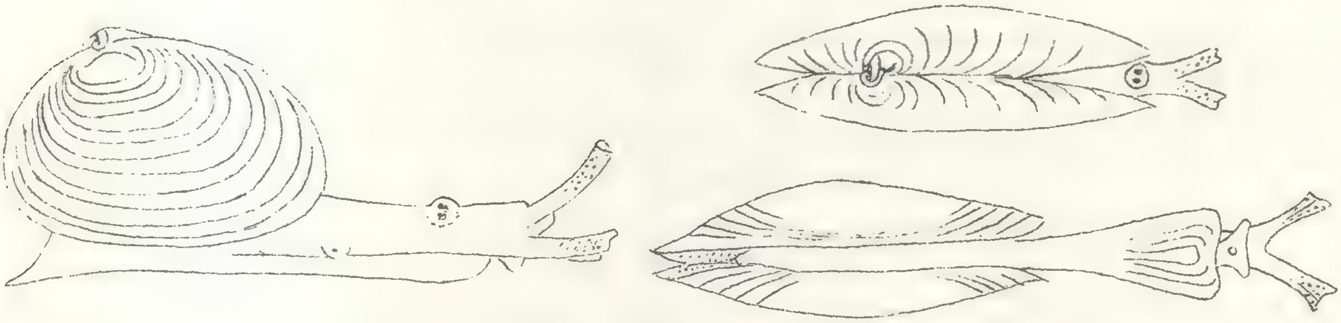
He died on April 24th, a victim of cancer.

THE BIVALVED GASTROPOD

One of the most curiously interesting items of news in malacology, in recent years, was the discovery by Japanese workers of the true nature of a small bivalved mollusk. Specimens in the fossil record had been published as early as 1875 from the Paris Basin of the Eocene. The first recent species was identified about 1895. From then until 1959 a few more species were added to this family, which by that year included, on a generic level, five names.

In 1959 Kamaguti and Baba studied living specimens of a new Japanese species and arrived at the startling conclusion that this seeming bivalve was actually a gastropod. The publication of this discovery came as a complete surprise to the malacological world. A concentrated hunt for living specimens of the closely related forms from Australia and the Gulf of Lower California made it possible for studies to be made of the living animals, which confirmed their characteristic gastropod nature.

In a recent paper, "The Shells and Radulae in Berthelinia, A Bivalved Sacoglossan Genus", appearing in "Venus" Vol. 21, No. 4, The Japanese Journal of Malacology, Baba suggest further that the five generic taxa for the group are close enough in general characters so that Berthelinia Crosse, 1875, the first generic name to be proposed, be used for all the forms. There are seven living species besides about six fossil forms.



The tiny gastropod crawls on its foot and possesses a radula. During its embryonic development it forms a univalve coiled shell. At metamorphysis the two valves emerge with a bivalve type hinge and internally a large adductor muscle. When mature, at 3 mm. to 10 mm., the minute gastropod coil remains attached to the left valve at the umbo.

The illustrations are copied from Baba's paper, referred to above. The name of this species is Berthelinia limax. It is from the Inland Sea of Japan. Length of the shell is 6 mm.

. . . ANTHONY D'ATTILIO

"Venus", The Japanese Journal of Malacology, is published at irregular intervals, usually two or three times a year, by the Malacological Society of Japan, Fukuyama, Japan. The text is in Japanese with summaries in English. It is very well illustrated with photographs. Subscription is $3.00 U. S. per annum, and should be sent to:

Dr. Tokubei Kuroda, Zoological Institute, Kyoto University, Kyoto, Japan.

ANNOTATED CHECK LIST OF LAND GASTROPODS OF BRONX COUNTY, NEW YORK

by Harold S. Feinberg

POLYGYRIDAE:

1.	Triodopsis albolabris Say	A single lot of dead shells collected in South Riverdale by Albert Taxson. They are quite small, measuring from 23 mm. to 27 mm. Two of them have suggestions of parietal teeth.
2.	Mesodon thyroidus Say	Uncommon in Van Cortlandt Park.

ZONITIDAE:

3.	Oxychilus cellarius Müller	Bronx Park
4.	Oxychilus draparnaldi Beck	The writer finds it difficult to separate the two introduced species of Oxychilus. However, shells keying out to one or the other have been collected in the County. This form has been identified from Van Cortlandt Park and from several vacant lots in and near Riverdale.
5.	Retinella electrina (Gould)	Small numbers found in Van Cortlandt Park and in vacant lots along Broadway.
6.	Retinella indentata (Say)	Rarer than preceding species. Found in Bronx Park, Van Cortlandt Park and in Broadway lots.
7.	Zonitoides arboreus (Say)	By far the commonest land snail. Found everywhere.
8.	Zonitoides nitidus Müller	Large colonies in damp areas of Bronx and Van Cortlandt Parks.
9.	Striatura milium (Morse)	A single dead shell found by Albert Taxson in a vacant lot on Netherland Avenue near 227th Street.

LIMACIDAE:

10.	Limax maximus Linnaeus	A few of these large slugs found in Van Cortlandt Park.
11.	Limax flavus Linnaeus	The only known colony is in a vacant lot on Broadway at 262nd Street.
12.	Deroceras laeve (Müller)	Common.
13.	Deroceras reticulatum (Müller)	Common.

ENDODONTIDAE:

14.	Anguispira alternata Say	Van Cortlandt Park, Hunters Isle in Pelham Bay, and several vacant lots in central and northern parts of County.
15.	Helicodiscus parallelus (Say)	Common everywhere.

* (See #27)

ARIONIDAE:

16.	Arion circumscriptus Johnston	Slugs of the genus Arion are abundant in Van Cortlandt Park and in vacant lots in the western and northern part of the County. Most key out to A. circumscriptus and a few have been identified as A. subfuscus. However, there are many that show the "specific" characteristics of both. The writer believes that these forms should be "lumped" into one species.
17.	Arion subfuscus (Draparnaud)	
18.	Arion intermedius (Normand)	On April 21st, 1962, the writer found a single adult slug of this species in Bronx Park. This is the first record for New York City.

PHILOMYCIDAE:

19.	Pallifera dorsalis (Binney)	One small lot in Bronx Park.
20.	Philomycus carolinianus flexuolaris Raf.	A single slug found in Bronx Park.

SUCCINEIDAE:

21.	Succinea ovalis Say	Rare in Van Cortlandt Park.
22.	Oxyloma effusa subeffusa Pils.	One snail found in Van Cortlandt Park. The Succinea group are very difficult to identify by shell characteristics alone. The writer is not sure of the correct identification of this snail.

VALLONIDAE:

23.	Vallonia pulchella (Müller)	Common in Van Cortlandt Park and in nearby vacant lots.
24.	Vallonia excentrica Sterki	As was to be expected, a few were found in the colonies of the preceding species. There is some question as to the validity of this form.
25.	Vallonia costata (Müller)	At least three small colonies in Van Cortlandt Park and Riverdale.

CIONELLIDAE:

26.	Cionella lubrica Müller	Common, but not yet found in Bronx Park.

Two additional interesting species have been found living on potted plants in the bird house of the Bronx Zoo. They are Lamellaxis mauritianus Pfeiffer and Opeas pomilum (Pfeiffer), both of the family Achatinidae. Of course, these can not claim a place on our local faunal list.

* 27.	Discus rotundatus Müller	Two small colonies discovered May 19th, 1962 near Cortlandtville Lake in Van Cortlandt Park. This is another European immigrant.

MAY, 1962, SUPPLEMENT TO ROSTER OF NEW YORK SHELL CLUB

Please make this correction on your October 1961 supplement:

BOOTH, Mrs. Jerry C.
should read: BOOTH, Mrs. Lucy C.
1005 Pacific Ave.
Atlantic City, N. J.

NEW MEMBERS

BENDERSKY, Mr. Israel
1310 Morris Avenue
Bronx 56, New York

BOSCH, Dr. Donald T.
Knox Memorial Hospital
Muscat
Oman
S. E. Arabia

BROGAN, Mr. Matthew
4122 Bergenline Avenue
Union City, New Jersey

CHAPEL, T/Sgt. M. L. Sr.
125 M Street
A. P. O. 845
New York, New York

CHEN, Mr. Anthony
4 Sydenham Avenue
St. Anns
Trinidad, West Indies

HEYMAN, Mr. Robert
2455 Seymour Avenue
Union, New Jersey

LA PORTE, Mr. William
Gulf Stream
Delray Beach, Florida

LO CURCIO, Miss Mary Rose
87 Harvard Place
Nutley, New Jersey

MC CLURE, Mrs. Virginia
317 South Westerly Drive
Beverly Hills, California

NORTON, Prof. F. H.
Dept. of Metallurgy
Mass. Institute of Technology
Cambridge 39, Mass.

RABINOWITZ, Mr. Samuel
712 West 175th Street
New York 33, New York

RICHMOND, Mrs. Ruth
222½ South Reeves Drive
Beverly Hills, California

SLATE, Mr. John
14 Davis Road
Port Washington, New York

ZAGER, Mrs. Joseph
326 Union Ave., Apt. 4-B
Irvington 11, New Jersey

CHANGES IN ADDRESS

BEAUMONT, J. V.
920 St. Charles Avenue
New Orleans, Louisiana

BURT, Mr. and Mrs. Arthur W.
Box 76
Candlewood Isle, Conn.

HUGER, Mrs. Doris
229 East 25th Street
New York 10, New York

JACOBS, Dr. Walter H.
585 West End Avenue
New York 24, New York

JENSEN, Mr. and Mrs. Norman
3083 Crescent Street
Astoria 2, New York

KOENIG, Miss Joan
Box 20243
Emory University
Atlanta 22, Georgia

LEVINE, Mr. and Mrs. Stanley
35-04 12th Street
Long Island City 6, New York

LOERY, Dr. William H.
665 Prospect Avenue
Little Silver, New Jersey

SULLEN, Mr. Robert
43-27 221st Street
Bayside 61, New York

TOBLEMAN, Mr. and Mrs. Fred
13½ Brewer Street
Newark, New Jersey

TRICOMI, Mrs. Elizabeth
39-39 57th Street
Woodside 77, New York

WETZEL, Mr. and Mrs. Richard K.
P. O. Box 7057
Euclid Station
St. Petersburg 4, Florida

WILMOTT, Mr. George
R. R. 1, Box 189
West Hurley, New York

NEW YORK SHELL CLUB NOTES No. 83 June-July-August 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY
NEXT MEETING: SUNDAY, SEPTEMBER 9th, at 2:00 P. M.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

PROGRAM FOR SEPTEMBER: We have some fully prepared presentations lined up, but at this time we cannot say which ones will be given at the Sept. meeting. At any rate , it will be a full and lively meeting. Circle the date on your calendar -- SEPTEMBER 9th!

THE PROGRAM FOR OUR JUNE MEETING did not proceed as scheduled. We were very sorry to learn of the illness in his family that prevented our principal speaker from being present, and we hope that all is now well with his household. As our president was professionally detained, the report on the field trip could not be presented in full, so was postponed. (We had a fine day and a record-breaking turnout!) Our recording secretary presided, the editor read the May minutes, and the corresponding secretary took the June minutes. Our treasurer fulfilled her own duties, and the shell-of-the-month bit was as scheduled. . . Substitute presentations so cooperatively volunteered were proceeding well when the bulb in the projector burned out. Unfortunately no fresh bulb was available, so the slides of nudibranchs could not be shown. This was getting to the what-else-can-happen stage, but we had a good time anyway.

We again discussed the necessity of centralizing our literature in a Club Library, and we're happy to report that prospects seem good. . . We plan to meet in informal groups for a few summer sun and shelling trips -- for details see another page of this issue.

We adjourned with best wishes to everyone for a good summer: "See you at the beach!" "See you in St. Petersburg!" "See you next September!"

COMING EVENTS

THE 29th ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION will be held on campus, Florida Presbyterian College, Saint Petersburg, Florida. The auditorium and general headquarters are at the interim campus, the former Maritime Base located off 1st Street South at 8th Avenue South, right there by the waters of Tampa Bay. We are looking forward to it, and New York Shell Club's representation will be substantial -- in speakers as well as attending delegates. The dates are July 31 - August 3, and it is not too late for you to plan to go. AMU President W. K. Emerson cordially invites you. See you in St. Pete?

dr

We have this announcement:

"THE FIRST EUROPEAN MALACOLOGICAL CONGRESS will be held in London from the 17th through the 22nd of September, 1962. It is hoped that an organization similar to the American Malacological Union will result from this meeting. Anyone planning to be in England at that time is invited to attend. For information inquire of the Hon. Secretary, T. E. Crowley, Clonard Cottage, Rowlands Avenue, Hatch End, Middlesex, England."

KATSARAS AUCTION:

Nick tells us that his auction SEPTEMBER 23rd will be bigger, better and rarer than ever before. (He tempted us at the last meeting by showing us slides of some of his shells.) He will hold it at the National Arts Club, 15 Gramercy Square (at 20th St.), New York City.

NEW PUBLICATIONS:

SHELLS OF NEW ZEALAND
by A. W. B. Powell

A new, revised edition of this excellent handbook is due in August, 1962. We have the 1957 edition, which is a book of 202 pages. It contains a complete check list to that date of the living molluscs of New Zealand (2202 species and subspecies, marine, fresh water and land. The check list is exceptionally valuable because it includes references to literature. There are diagrams, figures, distributional maps. 530 species are excellently illustrated in black and white. (We might note here that a fair percentage of the marine molluscs of New Zealand are also found in Australian waters.) The general text comprising the first section of the book is a "concise guide which aims firstly to provide the beginner with necessary background" . . "and lastly to take the advanced student beyond that great work, 'Suter's Manual of the New Zealand Mollusca'".

The publisher is offering a discount to shell clubs who order in lots of 12 or more. Under this arrangement, the price for the new 1962 edition will be only $2.10 per copy, bound in heavy flexible paper covers. Place your order with Corresponding Secretary Mrs. Grace McDougall if you can pick up your copy at one of our meetings. We cannot mail it to you.

Single copies of "Shells of New Zealand", @ $2.80, may be ordered from the publisher: Whitcombe & Tombs Limited, P. O. Box 1465, Christchurch C-1, New Zealand. Payment may be made in United States currency.

NEW PUBLICATIONS:

STATEN ISLAND WALK BOOK

Another of our NYSC members has become an author. Mathilde Weingartner, Curator of Natural Sciences at the Staten Island Institute of Arts and Sciences, has written the text for the "Staten Island Walk Book". She gives us a walking tour of Staten Island's eleven parks, tells how to get there by auto or by public transportation, describes the natural features of each park and lists the facilities. Miss Weingartner's hobby of bird-watching is evident, as is her interest in horticulture. It is a small book, 5" x 7", 24 pages and paper bound, with all 24 pages interesting. The marginal maps and illustrations are excellent and absorbing.

In 1952 the New York Shell Club visited three of these parks on their annual field trip, collecting both inland and at the beach. More recent field trips have taken us to Ward Point, where we collected Epitonium rupicola and many other things. (For a list of the shells to be found at Ward Point see page 115 of "Shells of the New York City Area" by M. K. Jacobson. (Advt.)) The Ward Point area is well covered in the booklet, as is Great Kills Park with the notation that "For those who like to collect shells, Great Kills Park offers quite a variety . . "

Sections of some of these parks (including an area at Ward Point) are in the City's plans for new highway development. Reading this booklet has reminded us of what we have been missing by not getting over to Staten Island more often. Let's make some trips over there while the parks are all intact!

The booklet is available from the Staten Island Museum, 75 Stuyvesant Place, Staten Island, New York. The price is 50¢.

THE ROMANCE OF SHELLS by Louise Allderdice Travers is a delightful book. Not a handbook, or guide, or "shell book" as such, but a personal story of what happened to this one individual's life as a direct outgrowth of being "bitten by the shell bug". M. Barrows and Company, Publishers, 425 Park Avenue South, New York 16, N. Y. Price $5.00.

JOURNAL OF THE MALACOLOGICAL SOCIETY OF AUSTRALIA. Published annually; contains scientific articles; new species, mainly Australian. Five numbers have been published. Contents of Journal No. 5, November, 1961: "Mollusca Collected by m. v. 'Challenge' off the East Coast of Australia" by T. A. Garrard; "Species of the Genus Liolophura Pilsbry, 1893" by Eugene Leloup, D. Sc.; "New Species and New Records of Marine Mollusca from Australia" by D. F. McMichael, Ph. D.; "Notes and Records--Another Poisonous Octopus Bite" by D. F. McMichael, Ph. D. Price: 15 shillings each or $1.75 by International Money Order to: Secretary, Malacological Society of Australia, 351 Glenferrie Road, Malvern, S. E. 4, Victoria, Australia.

STERKIANA. A journal devoted to the fresh-water and land mollusks of the Americas. Nos. 1 through 5 (1959 - 1961) available at 50¢ each. Good

general articles on ecology, distributions, checklists, conchological history, etc. Order from: Dr. A. LaRocque, Dept. Geology, Ohio State University, 155 South Oval Drive, Columbus 10, Ohio.

PLIOCENE MOLLUSCA OF SOUTHERN FLORIDA by A. A. Olsson, Anne Harbison, W. G. Fargo and H. A. Pilsbry. This is not a new publication (1953) but as many of you are becoming interested in the Florida fossils we thought we'd list it. 457 pages, 65 clear plates. Price $8.00 plus 50¢ postage check or money order to: Academy of Natural Sciences of Philadelphia, 19th and The Parkway, Philadelphia 3, Pennsylvania.

A CORRECTION: In the supplement to the roster enclosed with your May 1962 NOTES, No. 82, the change of address for Fred Tobleman was in error. His correct address is: 125 Franklin Avenue, Ocean Grove, New Jersey.

AN ADDITION: In the latest issue of the "Seafari", the paper of the Palm Beach County Shell Club, we read the announcement of the formation of a new shell club. Add it to the list in your NOTES No. 77, December 1961:

BROWARD SHELL CLUB Terry Marsh, Cor. Sec'y	Meets the 2nd Wednesday of each month at 8 P. M. at the Cypress Plaza Community Hall Pompano Beach, Florida

INFORMAL SUMMER OUTINGS

The committee has arranged an excellent schedule, selecting three dates for the informal sun and shelling trips this summer:

SATURDAY, JULY 14th: SHERWOOD ISLE, CONNECTICUT

An invitation has been extended to the New Haven Shell Club members to join us in this informal outing. We have for a long time wanted to get in touch with our shelling neighbors in Connecticut, and this is the ideal opportunity.

Sherwood Isle is a State Park on Long Island Sound about an hour's ride from New York. It is easily reached by New England Thruway (Interstate Route 95) to the "Sherwood I., Westport" exit, #18, and turn right into the park. The fee is 75¢ per car. Once in the park you will see the large parking areas on the left, and the buildings of the bath houses at the water. Shellers will meet on the beach in front of the bath houses. Come early in the day and have a swim -- then shell the outgoing tide. Low tide of 0.6 is at 3:40 P. M.

Scuba and skin diving is permitted in the park after all gear is inspected by the Harbor Master or Police Dept. Other rules: The area the diver is working must be marked with a buoy. No diver may work alone.

For those of you who would find it most convenient to use the Port Jefferson - Bridgeport ferry: Don Kuntz has kindly offered to bring his station wagon to the Bridgeport terminal to meet foot passengers if they will make

the appointment with him. His phone number is (Bridgeport) Edison 3-8180.

Perhaps a second outing with the New Haven Shell Club members will be arranged for September 8th, when low tide at Sherwood Isle will be at 12:44. This is yet to be discussed and decided.

SATURDAY, JULY 28th: CAPTREE STATE PARK, LONG ISLAND

(We were rained out of here last summer!) This is the area at the far eastern end of Jones (Beach) Island, at Fire Island Inlet. Go by parkways to the tower at Jones Beach, then east about 14 miles to Captree. Or by Sagtikos State Parkway and Captree Causeway. Plan to meet near the park building at the oceanside parking lot. There will be a low tide of 0.1 about 11:40 for Democrat Point, Fire Island Inlet and an hour later for the bay side.

SATURDAY, AUGUST 25th: "HOWARD BEACH", JAMAICA BAY

By car: The parkway system to Woodhaven Boulevard and/or Cross Bay Boulevard, south through the town of Howard Beach, cross the bridge and park in the public parking areas either side of the road at the southern end of the bridge. Public transportation: Independent Subway System, Fulton Street line to "Rockaway Boulevard" stop which is at Rockaway Boulevard and Liberty Avenue. Get there the "Rockaway" bus down Cross Bay Boulevard to the parking area. From Queens: Triboro Coach Company's "Rockaways" bus from the Woodside terminal at 61st and Roosevelt leaves every hour on the hour (or oftener if the weather is fine and sunny) with stops at the terminal at 74th and Roosevelt and on Broadway at Queens Boulevard.

A look at the map will show you more clearly than words just where we are planning to be. Meet at the parking area that is on the right when you are south-bound. The shelling area is the point of land bounded by Pumpkin Patch Channel and Grassy Bay, and the shelling promises to be very interesting. No swimming here, as the water is polluted. Low tide of 0.4 is at 11:42 A. M.

SHARE THE RIDE PLAN:

Those drivers who can take an additional passenger or two, and those shellers needing a "lift", please contact the committee member in your area. They will do what they can to put driver and prospective passenger in touch with each other. Not always possible, but they'll try.

Mrs. Dorothy Germer, Chairman
653 Briarcliff Avenue
Maywood, New Jersey
Phone: 201 - Hubbard 9-9389

Miss Marian M. Schroth
9113 84th Street
Woodhaven 21, New York
VI. 6-0325

Mrs. Anne Hunter, Hubbard 9-8798, Mrs. Ethelyn Woodlock and Mrs. Grace Beaven are working with Mrs. Germer.

For your convenience we list these other daytime low tides (tide tables on Bridgeport and Sandy Hook):

Long Island Sound: July 22, -0.5 at 9:50 A.M.; August 11, 0.9 at 2:16 P.M.

Atlantic Ocean: August 11, 0.6 at 10:37 A.M.; August 18, -0.5 at 4:49 P.M.
Sept. 1, 0.3 at 4:14 P.M.; Sept. 15, -0.9 at 3:43 P.M.

NYSC's TRIP TO SANDY HOOK

A glance at the map of New York harbor shows that the Lower Bay is widely separated from the Atlantic Ocean by two slender spits of land: the Rockaway Peninsula on the northwest and Sandy Hook on the south. Sandy Hook extends its slender arm from the Atlantic Highlands of New Jersey, and around its tip the swirling waters of the wave lashed ocean meet headlong the strong tides of the Bay. Such a concourse of waters, experience has taught us, throws on the nearest beaches a most interesting and varied shell fauna. So it was at Point Lookout until the stone jetties were built and so it still is at Breezy Point, Orient and other similarly projecting beaches. It was for this reason that the map of Sandy Hook always sent waves of strong longing over us, especially when we recalled seeing in the American Museum collection a few beautiful sets of large, perfect Astarte castanea, with the label "Sandy Hook, New Jersey". However, a visit to this promised land was for a long time out of the question since it was turned, early in this century, into a well guarded, highly important military base.

Recently the Department of Defense has decided to surrender, in this age of the atomic missiles, large sections of this base for a state park. Through the kindness of Dr. Lionel Walford of the newly established Sandy Hook Marine Laboratories, the New York Shell Club was invited to collect there, even before the Park was officially opened to the public.

A full bus-load and about 20 carloads of collectors converged on the area on June 2nd to be present at low tide at 2:30. The beach was lonely and white and beautiful, and the marshy shore on the opposite bay side was sedge covered and oozy and rich in shells.

The afternoon passed quickly without any startling finds, even though a skin diver, Mr. Fabricius, volunteered to jump into the murky waters of the bay and see what the bottom fauna was like. The general opinion was that shallow water dredging would probably serve better in this locale than a diver and we did not take advantage of his very kind offer. Even a visit to the very tip of the Hook, in Mr. Fabricius' station wagon, was a disappointment. Astarte shells were there commonly enough, but only single valves, small in size, and with the blackish periostracum characteristic of the form called picea Gould.

It turned out that the best finds were small but unmistakable specimens of Mesodesma arctatum. This species is common on Long Island east of a line not far from Hither Hills State Park. It is not an inhabitant of the waters near the Big City, for it was never reported from there in the old lists, and it was never found even after more than twenty years of diligent collecting. Hence it is all the more amazing that after this unexplained hiatus in the range of this species, it appears again south of us on the shores of New Jersey. But if in New Jersey, why not on Jones Beach? and Long Beach? and Rockaway? The activities of the members of the New York Shell Club definitely demonstrated that it does live in New Jersey. Now let some one who can, tell us why not on our local beaches?

Another curious circumstance, worthy of note, was the presence of fine, large (for the genus) specimens of Gemma gemma manhattensis. These well ridged, completely white shells were found alive under masses of drying seaweed, attached apparently unwittingly if not unwillingly, to the weed

by green hairy extensions of the weed material. They were fixed here so strongly that it took much looking to be sure that they were not holding on by themselves by means of a byssus. Incidentally it might be remarked that the subspecies *manhattensis* is characteristic of muddy bay sites such as this whereas *Gemma gemma* and *Gemma purpurea* are found in sandy locations. The late Dr. Henry A. Pilsbry was working on the problem and felt that the differences between *manhattensis* and its cogeners was just as much the result of ecological forces as of genetic specifics. However, the problem has not yet been solved.

The day was closed with a talk at the Marine Laboratory on its function and activities. Though no startling finds were made this day, it was useful to check off one more fair collecting locality in this locality-poor area.

. . . M. K. JACOBSON

A listing of the species found was started while we were still on the beach at Sandy Hook, and continued on the return bus trip (Harold Feinberg, recorder). Thirty-eight species were found, twenty-two of them alive (*). We note the absence on the list of the common *Littorina littorea* and *Crepidula plana*. A few of us did hike the ocean beach down to the rocks -- were there no Littorina there?

(Late report: One specimen of *Astarte*)
(*castanea* was found alive, ocean side.)

In SANDY HOOK BAY, 19 species:

* Brachidontes demissus
* Crassostrea virginica
* Crepidula convexa
* " fornicata
* Eupleura caudata
* Gemma gemma manhattensis
Haminoea solitaria (fragmented)
* Hydrobia minuta
* Littorina saxatilis
Macoma balthica
* Melampus bidentatus
* Mercenaria mercenaria (juvenile)
Mesodesma arctatum
* Mya arenaria
* Nassarius obsoletus
* Odostomia sp.
Petricola pholadiformis
Polinices heros
* Urosalpinx cinerea

At the ATLANTIC OCEAN, 28 species:

Aequipecten irradians
Anadara pexata
  " transversa
Anomia simplex
* Astarte castanea
Busycon canaliculatum
  " carica
Crassostrea virginica
Crepidula fornicata
Ensis directus
Eupleura caudata
Laevicardium mortoni
Mercenaria mercenaria
* Mesodesma arctatum
Mulinia lateralis
* Mytilus edulis
Nassarius obsoletus
  " trivittatus
  " vibex
* Odostomia sp.
Petricola pholadiformis
Polinices duplicata
* " heros
  " triseriata
* Seila adamsi
* Spisula solidissima
Tellina agilis
Urosalpinx cinerea

On the LAND, (in an area with lush growths of poison ivy and prickly pear)
1 specie:

* Triodopsis albolabris traversensis Leach.

A VISIT TO AN ITALIAN NATURAL HISTORY MUSEUM
By Catherine Ahders Schmitt

I visited the Natural History Museum here in Florence -- well, anyway, the study collection. The museum itself has been closed as long as we have been here with the ambiguous sign that says it's in the process of "nuova ordine". The "direction" wouldn't let me have even a peek, it's so dirty and so disorganized. I doubt whether it will be open ten years from now because there is no sign of any work going on. Our guide book which is from 1950 says it was closed then, too. The problem as I see it is that they are very much understaffed and badly in need of funds. I don't know which level of government is responsible, but at whatever level, all museum money goes to art museums and restoration of paintings and frescoes. After all, that's what brings the tourists for one of the biggest industries in Italy.

Professor Baldasserone, an elderly gentleman, is in charge, and it was Professor Martelli, an entomologist, who showed me the collection. There is no malacologist connected with the museum (nor apparently anyone being trained for this work in the Zoology Department of the University, which is housed in the same enormous building erected by a Medici, Cosmo I, I believe). I had expressed an interest in land shells, and so was shown the Marianna Paulucci Collection from about 1860 to 1890, which also has some marine material. To an amateur like myself, it seemed well ordered with many lots for many species and varieties, some of which Martelli thinks she named herself, with of course old nomenclature. They told me this museum has the largest collection of shells in Italy, which I can well believe. Among other things it has the Connelly shells from Somalia (once an Italian colony) with a number of type specimens. They had some cases of "old" shells which I asked to see for curiosity -- "old" meant the 1850's when Italy was still divided, and the localities would have slightly different names today. Each shell, even the tiniest, had a large oval label, bordered in green, with handwriting that would make a librarian blush for shame.

The "magazine" where the collection is kept is not heated and one's feet do get cold. They offered to take out whatever trays I wanted to study and bring them to where it was warmer and lighter. The library, very modern and well lit, had shell books far from modern, and included, it seemed to me, everything of importance up to about 1890, plus a few later things sent by courtesy from publishing museums. There was Tryon, Kiener, Sowerby, Reeves, a Smithsonian pamphlet by Dall, and I don't remember what else. I am welcome back whenever I want to read, work on a project of my own, or help them.

We welcome new members Mrs. Dennis E. Hamilton and Miss Lorraine Quinones

Mrs. Dennis E. Hamilton
35 Madison Avenue
New York 10, N. Y.

Miss Lorraine Quinones
5025 Broadway
New York 34, N. Y

Sam Freed has moved to 701 Bailey Avenue, Elizabeth, New Jersey

Fred Tobleman is still at 125 Franklin Avenue, Ocean Grove, New Jersey

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NEW YORK SHELL CLUB NOTES No. 84 Sept. 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Historian
NICK KATSARAS

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GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President &
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

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NEXT MEETING: SUNDAY, OCTOBER 14th, 1962, at 2:00 P. M.

PROGRAM: MISADVENTURES OF A LIGUUS COLLECTOR, by Harold Feinberg.
(See **) THE GENUS LATIAXIS IN JAPAN, by Anthony D'Attilio. With color slides.

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A NOTE ON THE OCTOBER PROGRAM: The author of "Shells of New Zealand", Dr. A. W. B. Powell, is spending some weeks in this section of the country. There is a possibility that he will be able to be our guest at the October meeting. We hope so -- but we have no definite word. (See **)

Anthony D'Attilio's presentation of "The Genus Latiaxis in Japan" is a repeat of one he gave for the A. M. U. members assembled in St. Petersburg. His talk and the accompanying slides by George Raeihle were very well received. You'll enjoy them, too.

Enthusiastic field collector Harold Feinberg's title is self-explanatory!

AT THE SEPTEMBER MEETING: M. Theodore Brauner was our guest speaker. He showed us a superb series of color slides of two captive Helix aspersa Muller. With infinite patience he had photographed their elaborate courtship, the mating, the preparation of the "nest", the cluster of round pale eggs laid therein and finally the tiny newly hatched snails. This was truly a malacological study and was so highly appreciated by his audience that the applause became an ovation. We hope that we can see more of his work before he returns to Paris.

** NEWS FLASH AT PRESS TIME: Dr. Powell will be our guest October 14th.
His topic: ORIGIN OF THE NEW ZEALAND MOLLUSCAN FAUNA.

THE A. M. U. MEETING IN ST. PETERSBURG, FLORIDA

Though this meeting took place a good distance from home, many New York Shell Club members attended. It has become a commonplace to say that these meetings were enjoyable to the last degree, but what else can one say when this is a simple statement of fact? There were again the annual encountering of friendly faces, the rehash of old and new events, the meeting with new people who have been only names and now become faces, the immersion in matters malacological and conchological for a full four day period, and finally but perhaps most important of all, the swelling out of essential knowledge of shells and the shell world.

The most interesting and important paper was that given by Donald R. Moore on the new position of the Caecidae. He places them close to the Rissoidae and laid forth for us his cogent reasons for doing so. This involves a fundamental change in thinking and, to that extent, makes outdated such standard works as Thiele's HANDBUCH and Wenz's GASTROPODA, among others.

Highlighting the sessions was the motion picture documenting the San Diego Museum expedition to the islands of the Vermillion Sea, Baja California. The picture was presented and commentary provided by Dr. W. K. Emerson, the President of the A. M. U. and honorary member of the NYSC. This unedited account was an interesting, well photographed record of the sort of trip we all dream of making. None of us will soon forget the picture of 63 year old Charles Harbison, the entomologist of the trip, scampering among the rocks and sleeping out all night to be sure none of his precious specimens escapes the traps he set for them.

The banquet was unique, a thoroughly Americanized Hawaiian luau which obtained an aura of romance from the fact that before the luau potions were liberally dispensed to all comers. Nor shall we forget the fish fry, where the barbecued mullet was a gastronomic delight!

The field trip to Tampa Bay was a revelation to northern collectors. The writer, for one, caught his first live Atrina and Venus campechiensis, and saw many other species alive which until now he had seen only in cleaned shells. The best part, however, is made up of the minute members of the phylum, to get which large quantities of dried dredged material were taken home to be put under the magnifying glass some cold and snowy day. The problem of smell, which is, as a Frenchman would say, formidable, was partly solved by tying the triple plastic bag full of the stuff to the back bumper of the car. The front bumper, where the passing wind flavored itself liberally on the odorous mass, proved to be unsatisfactory. (Incidentally, at home a ten minutes' dunk in a mixture of 50% chlorox removed most of the smell and left it only endurably rich instead of outright intolerable.) This was the official field trip. A few surreptitious ones were undertaken by members to other localities when they played hookey from some of the lectures.

In brief, under the expert guidance of the President, and the elaborate and careful preparations of the St. Pete Shell Club, this meeting proved to rank well in interest and pleasure with all its predecessors.

. . . . M. K. JACOBSON

Contained in a letter to Anthony D'Attilio was this account of

A DREDGING TRIP TO NACALA BAY ON THE COAST OF MOZAMBIQUE

by K. J. GROSCH

May 13, 1962 . . . During the week around New Moon I was up at Nacala Bay on a dredging trip. Just as a trip it was rather nice, but the dredging was absolutely rotten.

I had made a new dredge; a rather fine thing, 23" wide, well balanced to cut about 2" deep. Since the Nacala Bay is fairly deep and its east shores slope down at an angle of 20 - 40° it is quite easy to work the dredge from the shore, provided one has a small boat to take the dredge out. I intended to work this way and hoped for a good batch of Mitra regina, Conus consors and some kinds of Strombs.

That new port of Maaia at Nacala Bay is really not far from here; say 45 kilometers as the crow flies, but to get there by car one has to go round almost the whole of Conducia Bay, in a wide detour to avoid the lagoons and mangrove swamps, and over terrible roads, to a place called Chicoma on the northern shore of Conducia Bay, right across the bay from here. From there on the road to Maaia runs more or less straight north over hilly country and is good enough to let you get there in less than half the time it takes you from here to Chicoma. Well, to avoid that troublesome first leg of the trip I crossed Conducia Bay by boat, early in the morning, running with reefed sail before a strong south wind. In the middle of the bay a short rain squall hit and broke the reef out. That's a rather nasty thing to happen with a lateen sail, since one has to lower the whole stuff down for rereefing, and if one isn't quick enough about it anything may happen - from broaching to dismasting. I was rather pressed for time, since I wished to meet the regular bus which passes Chicoma en route to Maaia. So I had the boys rig the halyard as backstay and prayed that the sail wouldn't blow out. That old junk, however, got up and planed beautifully. Now, since the tide was outgoing, and since miles of coral reefs off Chicoma make it impossible to approach the coast at low tide, I had to run ashore three miles west where a mangrove thicket and a mud bank are jutting out into deeper water, and to walk over to Chicoma, partly along the beach, partly on short cuts through the bush. I made the bus in time and arrived at Maaia together with a cloudburst.

In Maaia I found my friend, the local D. O., whose house lies high up on the hill above bay and harbour and township, busy with C-clamps and resin glue, sticking together a beautifully designed catamaran. He took me to see the Captain of Port who graciously permitted me to do all the dredging wherever I wanted, and he found me an old fisher with an outrigger canoe. That old fisher was a nice fellow, but it took me a long time to get it through his head that I didn't want to fish cockles and oysters for lunch. That first afternoon I pointed out to him, from the hilltop, where I wanted to start dredging in the morning. Of course, the old fellow didn't agree with me. I had studied the chart of the area well and had a fair knowledge of the bottom everywhere, but to whatever likely spot I pointed, the old man assured me that there was nothing, absolutely nothing. So, just to please him, I said that I'd leave it to him, next morning, to pick the sites of the first three hauls.

In the evening we went "downtown", picking up friends here and there, to see a game of football between the harbour construction gang and some club

or other. In spite of some tremendously good natives the game was not exactly animated, due to the temperature. Next to me a Portuguese girl was wildly jumping up and down and yelled and screamed at the top of her lungs. I thought that rather exaggerated and told her so; but she said she didn't do that because of excitement but because of the cold. And it was darn, darn cold. Indeed, during the twenty-odd years in Africa I've never felt as cold as during that hour.

Next morning wasn't much better. The cold South wind blew down the bay, the sky was so overcast that one couldn't guess where the sun was, and the water was almost as muddy as the bottom of the bay. When we came down to the beach the old fellow was already waiting there with his outrigger contraption. It was low tide, all right, but one hardly noticed it since, because of the steep slope of the shore, the strip of dry beach was very narrow. The dredge and its ropes went into the boat, the old man took his bearings and shoved off while one of my boys payed the rope out and the other one held on to the bitter end of it on the shore. All rope payed out, the dredge was lowered to the bottom, about 60 ft. Here I should explain that I don't like to toss the dredge overboard nilly-willy. I lower it on a rope of somewhat more than expected dredging depth with a small buoy at the end. This rope is securely tied to the hind end of the dredge, then led forward to the top of the frame where it is tied with some tough string. On this point the dredge is lowered or pulled up if slightly stuck. If seriously stuck, the string breaks and the dredge is pulled out backwards. Well, we started pulling in and everything worked fine for fifty yards or so. Then slowly the dredge grew heavy, and every yard more so. Once it got stuck and I went out and lifted it over a couple of rocks. In the end we had it out and turned it over. Yeah, about fifty pounds of clams, mussels and such stuff. Anadara mainly. Some Strombus fusiformis and one dead Mitra regina. The old man grinned and thought we had done fine. The next haul brought some more Strombs, more Anadara and Tellina and small Cardium, while the third one brought a few fine, small Mitra and a fine Conus consors. That is, I reckon it is consors daulli. This shell I haven't found anywhere else in the Moçambique area so far. Only in Nacala Bay. I'm going to send you a specimen with periostracum in the next parcel, so you can make sure about its identity. These three hauls satisfied me completely as to the character of the spot, and since the wind piped up some more as the tide started coming in, I called it a day.

Next day I dredged a bit farther south, near the harbour constructions. There I got some more Conus consors, a lot of Terebellum terebellum, a medium sized, all violet Stromb which resembles japonicus, a few Conus iodostoma and more Anadara of course. Here the dredging was really a weary business. The bottom is only thinly covered with sand and right beneath is thick, heavy, black mud. The dredge cuts into it like into butter, but the mud never gets through the wire mesh. It sticks to the frame like clay, and every five feet one has to heave the full dredge up and wash the mud out by plunging it up and down.

Well, that day it rained some more, from incoming tide until night. Next day wasn't much better, the wind piped up and the temperature went down and we spent our time indoors, talking politics and shells and boats, but mainly boats. When I left, I left my dredge there since I'll be up there again as soon as the south wind time is over, in a couple of months. I would like to do some dredging in Moçambique Bay now, but really, one needs good, warm and dry weather for that. . . . .

EXTRA! EXTRA! LIGUUS NOT A SEA SHELL!!

A few weeks ago Miss Mathilde Weingartner, treasurer of our Club, called the attention of the special editor to an advertisement that had appeared in the New Yorker Magazine. In it the reader was urged to hold to his ear a sea shell and hear in it the sound of the sea. The ad was illustrated by a fine photo of the Floridian tree snail, Liguus fasciatus. The following correspondence is an outgrowth of that incident.

July 27, 1962

Hotel Dennis
Michigan Avenue
Atlantic City, New Jersey

Gentlemen

I tried hard to keep from writing this letter but the thing kept bothering me so here it is, with apologies if you feel I owe them to you. I don't want to seem mean.

The enclosed ad is not of a sea shell, but of a Florida tree snail known scientifically as Liguus fasciatus. It would drown in sea water just as surely as your careless ad man. That is, if it managed to survive a New Jersey winter.

Don't get mad at me. My doctor tells me I am ridden with compulsions, and one of them is to keep people from making damn fools of themselves in public. Now you know all.

Very truly yours,

Morris K. Jacobson

PS You might do worse than buy your ad man a copy of the enclosed book. ("Shells of the New York City Area" by Jacobson & Emerson - Ed. Note.) It will keep him from making bloopers in the future.

mkj

July 30, 1962

Dear Mr. Jacobson:

Thank you for your very nice letter of July 27th calling our attention to our advertising "boo-boo".

Please be assured that there are no apologies necessary and we do not consider you mean for calling this error to our attention. However we do feel that you should be a little more kind in your appraisal of our New Jersey winters - we like to feel that they are not severe but "rather mild".

You stated that your doctor has told you that you are ridden with compulsions and one of them is to keep people from making damn fools of themselves in public. We hope that you do not reach a point of complete frustration in your endeavors in this direction

since it seems that most of us are bent on making damn fools of ourselves.

In all seriousness, we have notified our New York Advertising Agency of this error and asked them to follow your suggestion and purchase the book "Shells of the New York City Area" so that our advertising in the future may be scientifically correct.

Again, thank you for your very fine letter and its good humor and if you should be in Atlantic City I would consider it an honor to meet you.

Very truly yours,

Joseph Hermann, Jr.
Executive Vice President
Hotel Dennis

August 14, 1962

Dear Mr. Hermann

Thank you for your understanding letter of July 30 which I found here when I came back from an extended vacation in the South.

Incidentally, it might be of some comfort to you to realize that Liguus, the Florida tree snail in question, is found only south of Miami and on the Keys. Apparently then it finds the winters of even northern Florida too severe for its survival, let alone the more intense winters north of there. As an old inhabitant of Atlantic City (from 1914 to 1917), I seem to recall that what you say about mild Atlantic City winters is more or less true.

Sincerely yours

Morris K. Jacobson

August 15, 1962

Dear Mr. Jacobson:

You may be sure that on my next visit to Florida I will make it a point to go down to the Keys to take a look at those little devils who dislike cool weather.

Once again, Mr. Jacobson, I have greatly enjoyed this exchange and I truly hope to meet you.

Sincerely,

Joseph Hermann, Jr.
Executive Vice President
Hotel Dennis

EVERYBODY LIKES COWRIES

The current movie, "The Sky Above, the Mud Below", renewed my interest in New Guinea and I proceeded to re-read several books I had on hand. The following paragraph from M. S. Stirling's THE NATIVE PEOPLE OF NEW GUINEA, describing the pastimes of the Negrito inhabitants of the central plateau, should be of interest to shell collectors:

> "Their greatest treasures are cowrie shells that have worked their way inland from the coast. It is interesting to note that these shells are far from being uniform in value. They are appraised individually as carefully as a gem expert would evaluate diamonds. Cowries vary somewhat in size, the average being about three-quarters of an inch in length; they vary in color from porcelain white to a rich yellowish cream. They vary in shape from a smooth oval to a rough diamond shape with pronounced shoulders. The shells to which they are accustomed have all been perforated by the coast Papuans for the purpose of stringing them. Among the shells is a complete gradation of the factors mentioned. The factors most desired are the yellow color, the roughness and diamond shape, large size, and smallness of perforation. A large, rough, yellow shell with a small perforation can be worth 100 smooth white shells, with all grades of value in between. The Negritos love to study them and will lovingly fondle an extra fine shell as a gem lover would an unusually precious stone. Their currency also includes items of small denomination such as phalanger tails and a certain type of large, flat, polished seed."

. . . . WILLIAM E. OLD

SHELL EXHIBIT

..Congratulations to Albert Taxson on the impressive exhibit of shells that has been on display for some weeks at the Tuckahoe, New York, Library. We don't think the exhibit will be on much longer, so we suggest you see it while you can.

FROM THE MAIL BAG:

Dr. Michael B. Krassner writes that he is "interested in selling my entire collection of 50,000 specimens of 2,500 species of shells, cabinets and library of malacology"; also "microscope slide, and mineral and fossil collections". Anyone interested should get in touch with Dr. Krassner at 35 Davenport Ave., 5-B, New Rochelle, N. Y., phone NE.5-4048, for an appointment to see the collections which are at 2850 Shore Parkway, Brooklyn 35, New York.

WE WELCOME A NEW SHELL CLUB:

KEPPEL BAY SHELL CLUB
Mr. E. S. Littlejohn, Sec'y
Box 114 P. O.
Yeppoon
Queensland, Australia

Founded March 30th, 1962. Meetings are held in Yeppoon on the fourth Friday of each month commencing at 7:30 P. M. Printed quarterly publication "Keppel Bay Tidings" Vol. 1 No. 1, June 1962.

FURTHER INFORMATION ON THE BROWARD SHELL CLUB: Their secretary is Mrs. Terry Marsh, 3313 Southeast 2nd Street, Pompano Beach, Florida.

NEW YORK SHELL CLUB NOTES No. 85 Oct. 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74. N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, NOVEMBER 11th, 1962, at 2:00 P. M.

PROGRAM: MISADVENTURES OF A LIGUUS COLLECTOR,
by Harold S. Feinberg
COLLECTING MIOCENE FOSSILS IN VIRGINIA
by William E. Old

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

DR. POWELL VISITS NEW YORK

The New York Shell Club, at their meeting of October 14th, was honored to have as guest speaker Dr. A. W. B. Powell from the Auckland Museum in New Zealand. Dr. Powell is in the United States doing research work on the Turridae of the world for the "Treatise on Invertebrate Palaeontology". Nearing completion at the same time is his monograph dealing with the Indo-Pacific Turrinae for "Indo-Pacific Mollusca". On the agenda for pursuance of both projects is also a tour of the museums of Europe.

To illustrate his talk Dr. Powell showed us slides picturing many aspects of New Zealand, especially as these conveyed some understanding of the habitat of both the terrestrial and marine shore molluscan fauna. New Zealand enjoys a very congenial, moderate, temperate climate with an annual rainfall of 60 inches, a favorable condition for some very interesting mollusks. Its shores differ radically, ranging from the wave-beaten rocky shores of its west coast to the pleasant, fine beach areas of the east coast. As might be expected, there is a distinct fauna for each shore around the islands constituting New Zealand.

There are more than 2,000 species of mollusks recorded from New Zealand, of which 90% are endemic. Among the marine species there are some unusual groups including large, showy, 4 inch Calliostomas and Maureas. Of particular interest are the wholly endemic Strathiolaria, the Volutid genus Alcithoe and the spectacular Iredalina aurantium.

The terrestrial mollusks are noteworthy for the large Placostylus species, and the large carnivorous Paryphantas that feed on earthworms and lay

large shelled eggs that somewhat resemble birds' eggs. In addition to these larger snails there are a multitude of small forms and minute species. Depredation of the flora by domestic animals and the clearing of the primeval forest for agriculture has faced many land shell species with the problem of extinction. Some of the Paryphantas have been reduced to where they occupy as their habitat little more than a few square yards -- in contrast to their one time abundance.

The beautiful slides of land and marine shells and their habitats, with Dr. Powell's running commentary, were thoroughly enjoyed by the appreciative audience.

. . . ANTHONY D'ATTILIO

EUROPEAN MALACOLOGICAL UNION FORMED

On Monday, Sept. 17, 1962, malacologists from all parts of the world met in London to attend the First European Malacological Congress. The most important business at hand was to create a European Malacological Union (Unitas Malacologica Europaea).

Sessions were held at both the British Museum of Natural History and Queen Elizabeth College, the latter serving as residence for those attending the Congress. Formal papers, field trips and a cocktail party were featured events; the informal gatherings proved most scientifically rewarding.

On Friday night, those present at the final meeting unanimously voted the Union into being. Also unanimous was the election as president of Denmark's Henning Lemche, famed for his discovery of Neopilina. The next meeting was tentatively set for 1965, in Copenhagen.

Sidelights: Americans present included R. Tucker Abbott and Robert Robertson of the Academy of Natural Sciences of Philadelphia; Henry van der Schalie, John B. Burch and Anne Gismann from the University of Michigan; Fritz Haas of Chicago's Natural History Museum; Alan Solem of the same institution, pausing in his worldwide travels; Hawaii's Alison Kay, R. Carriker of Woods Hole; and Arthur Clarke, now doing his work in Ottawa. . . . The language barrier created almost insurmountable difficulties for many. Luckily, several multilingual malacologists were present to save the day. Quite a scene to witness: a Dutchman acting as go-between for an American and an Italian, both of whom were struggling to converse with each other in a language they had only a halting acquaintance with -- French . . . . While it is perhaps unfair to single out individuals for special mention, some recognition should be given the dynamism of Gunnar Thorson of Denmark; the wise counsel of his compatriot, Prof. Lemche; the charm of Holland's Mrs. van Benthem Jutting (as well as her paper on how the closing off of the Zuider Zee affected a great part of that area's molluscan life); the contributions made in discussing formation of the union by certain of the German contingent, including the eloquence of Richard Schlickum, an attorney from Cologne bitten by the molluscan "bug"; the smooth handling of the entire proceedings by chairman Crawford and all the British hosts; and the very presence of people from around the world, such as Dr. Dell of New Zealand and Mrs. Czabalay-Benkö of Hungary.

. . . H. S. GORDON
October, 1962

NOTICE:

An exception to our schedule of meeting dates will be made in April, 1963, when the meeting will be held April 7th instead of April 14th.

THE KATSARAS AUCTION

Nick Katsaras' auction at the National Arts Club last month was finer than ever. All the shells were superb specimens, truly collectors' items. . . Among those rarely seen at an auction were Conus stupa, Conus tendineus, Voluta ebraeus (with operculum), Strombus taurus and the coveted Cypraea aurantium. The Spondylus were exquisite, as were the many Volutes and Murex. There was an exceptionally beautiful Mitra vittata and a large, fragile, perfect Argonauta. We could go on and on -- but enough of listing! The tables held no "nickel and dime" shells this time, yet there were plenty of specimens in the moderate price range and no purse was excluded. There was spirited and tenacious bidding, but less of the emotional bidding so often evident at the auctions. Competition, however, extended even into family circles!

Nick's badge of office was a Knefastia walkeri, a turret shell from deep water off West Mexico. A Siliquaria sp. had attached itself to the Knefastia and in growing had formed a ring through which Nick passed a cord and so hung it around his neck. Several attempts to bid on it were useless -- it was not for sale. Other interesting marine oddities were the Xenophera bearing a flowerlike cluster of purple barnacles, and the delicate, lace-like silica sponge.

By 6:00 P. M. the tables were completely empty while buyers were still eager -- a sure indication of the quality of the wares.

(Next year, Nick?) dr

EXHIBIT OF SHELLS: During October the Pease Memorial Library in Ridgewood, N. J., featured a display of shells, both local and exotic, by NYSC member Mrs. Ethelyn Woodlook. The "Ridgewood Herald-News" of October 11th took very complimentary notice. We wish we could have seen the display, because Mrs. Woodlock is an artist as well as a conchologist.

"GIANT CLAM ... A 300-pound specimen of the world's largest shellfish, Tridacna gigas, was presented to the Circumnavigators' Club by the Australian National Travel Association. Association manager Don Beresford made the gift to Circumnavigators' president, George Pierrot aboard a Circle Line vessel in New York harbor on Wednesday, October 3. The shell was taken near Cairns on Australia's Great Barrier Reef, a coral coast which boasts over 10,000 species of mollusks."

We are indebted to Larry Olds, of Cunningham & Walsh, Inc., for the above news item and the fine pictures which accompanied the release.

PUBLICATIONS:

MALACOLOGIA

"A new international multilingual journal of malacology, MALACOLOGIA is a medium for publication of original research in all aspects of the study of mollusks: their morphology, ecology, life histories, evolution and fossil record, etc... MALACOLOGIA will publish research papers of all sizes, but especially monographs and longer papers. Each paper is abstracted in at least 3 other major languages... Subscription price is $5.00 per volume (yearly) and may be ordered from J. B. Burch, Managing Editor, MALACOLOGIA, Museum of Zoology, University of Michigan, Ann Arbor, Michigan." Vol. 1, No. 1 of this new publication is dated September, 1962.

PUBLICATIONS:

WEST COAST MOLLUSKS

Type Specimens of Marine Mollusca described by P. P. Carpenter, from the West Coast. (San Diego to British Columbia) by Katherine V.W. Palmer.

VI+376 pp., 35 pl., 1958. More than 270 species are discussed, and over 190 shells are illustrated including common West Coast species. Distribution of species and nomenclatorial notes on species and genera are included. Original data on all the types of the Carpenter species and historical background of Philip Carpenter are given. To quote: "Essential information, painstakingly assembled and most beautifully organized".

Cloth bound $8.69 postpaid, from Paleontological Research Institution,
109 Dearborn Place, Ithaca, New York.

HANDBOOK OF PALEONTOLOGY FOR BEGINNERS AND AMATEURS: THE FOSSILS

by Winifred Goldring. 394 pp., 97 figs. and full bibliography. This is a well-known and useful text on fossils, the phyla of animals and plants including descriptions of the make up of fossils, how to collect, full descriptions with illustrations of the groups. Originally published by the New York State Museum, this is the third printing. This inexpensive text is known internationally and has been and is used in courses for paleontology, geology, and biology. It is highly recommended for that purpose and for individuals.

Colored paper cover, $3.00 postpaid (Discount if bought in large quantities), from Paleontological Research Institution, 109 Dearborn Place, Ithaca, New York.

THE COWRY, by R. J. Griffiths.

No. 4 of Vol. 1 of this publication devoted to Cypraea is dated August 15, 1962, and is now available. Among other interesting articles in this issue: "Cypraea (Blasicrura) coxeni Cox" by William E. Old, Jr. Contact our recording secretary for your copy @ 85¢.

AMERICAN MUSEUM NOVITATES

Students of Cymatium will be interested in No. 2108, dated October 10th, 1962: "Remarks on Triton ranzanii Bianconi" by William K. Emerson and Anthony D'Attilio. Available from the Library of the American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y. The price is 40¢.

CARIBBEAN SEASHELLS, by Warmke and Abbott.

This popular book is now in its second printing, and the publisher is making a special offer of 20% discount to shell clubs placing group orders before the end of November. Net price $7.16 per copy instead of the list price of $8.95. Those of you interested in this offer should contact Corresponding Secretary Mrs. Grace McDougall, enclosing your remittance. If enough of you respond, the order will be placed; if too few, your remittance will be returned to you.

BOOK REVIEW:

THE ROMANCE OF SHELLS IN NATURE AND ART

by Louise Allderdice Travers.
Barrows and Co., New York, 1962, $5.00.

The different kinds of approaches to the sport and science of shell collecting have truly been amazing. A recent book even approached the field from the realm of heraldry. Mrs. Travers approaches from the angle of the shell artist. It is true that in her light and limpid prose she deals with various facets of shell collecting, but her unique contribution is the assembling of many little known facts about the role shells have played in handwork and artistic creation. How many of us, for example, have ever heard of Mrs. Mary Granville Delaney, known to the great Samuel Johnson among others, and the original and startlingly beautiful works she created from shells alone? And of Gertrude Jekyll, who "painted" with shells when her eyesight failed and had to make her pictures through the sense of touch which guided her in working with shells? How many are acquainted with the art of shell grotto making, so popular among the well to do of 18th century England?

A hobby does not remain in one "circle", to use an idea of Mrs. Travers', if it is to become a real hobby; it must grow outward and envelop other fields if it is not to warp its practitioner and develop a sort of unpleasant restriction. The "outer circle" of Mrs. Travers' collecting is truly a fascinating field, leading her to haunt antique shops and book shops, to "live" herself into the thought and feeling of the 18th century, to test the various glues, picture frames, wall paper and cloths in the creation of her unique and truly beautiful works of "decoupage" -- a word she revives from earlier usage and applies now to her own creations, color photos of which add much to the loveliness of this book.

The reviewer confesses that he read it through in one sitting, beguiled by the gentle flow of Mrs. Travers' narrative. There is much here to focus the reader's attention: the warm, deeply felt personal notes, the light touching on the better known aspects of shell collecting, the new research that adds another "circle" to the whole field of shelling, and finally the detailed and clear description of working in decoupage. Various members of the New York Shell Club, as well as the Club itself, get kind mention in the book, which the reviewer for one thinks he does not deserve but is grateful for nevertheless.

The inevitable errors in any such work are kept to a minimum, the most serious one being perhaps the confusion of "mussel" species when referring to "the epicure's delight". In clarification it should be noted here that fresh water mussels are farmed only for their shells (which are used in button making, etc.), the flesh usually being discarded as unsavory. Also, the uncooked flesh of these bivalves harbors parasites that are dangerous to man. On the other hand the marine mussel, Mytilus edulis, is highly valued gastronomically and in many sections its cultivation is important as a food supply. As for other errors, they can be found only by diligent search and hence do not count.

A final thought suggests itself: our Club is fortunate indeed to be able to include among its members a person so warm, so skillful, and so talented in various fields. The book can well serve to arouse the interest of an outsider in shell collecting, but it can also add a new dimension for the reader who has already had many years of pleasure with the hobby.

MKJ

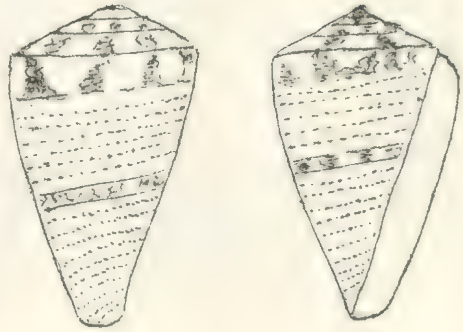
SHELL OF THE MONTH -- CONUS CECILIAE Crosse, 1858
by WILLIAM E. OLD

While working with the *Conus* collection in the American Museum of Natural History, I came across a shell labeled "Conus vittatus, Panama". Since it was quite different from C. vittatus, apparently the former owner of the shell (or the dealer who supplied it many years ago) had fabricated the label. Furthermore, C. vittatus is placed in the subgenus *Chelyconus*. The specimen at hand was quite different, and apparently belonged in *Rhizoconus*. I put it aside and later came across a figure of the species in Sowerby's THESAURUS.

Conus ceciliae was named by Crosse in the JOURNAL DE CONCHYLIOGIE in 1858. Prior to that it had been figured (with a vernacular name only by Chenu). Bernardi in the MONOGRAPH OF CONES copied Crosse's original description and added notes of his own. A translation of Bernardi's remarks follows:

"Length: 36 mm. Max. diam. 21 mm.
From: Delessert and Roland of Roquand's collections.

Shell turbinated, of a very bright brown, almost tawny, with a white band, spotted with brown at the angle of the spire and at the median part. Spire of nine whorls. The last whorl appears latticed and as though pierced with pinholes, due to the meeting and crossing of rather stout transverse ribs or ridges, with longitudinal furrows less marked, but nevertheless very pronounced. The right edge is thin and sharp. The aperture whitish.


Conus ceciliae Crosse

The remarkable species was first figured without description by M. Chenu in his LEÇONS ÉLÉMENTAIRES D'HISTOIRE NATURELLE, pl. 9, fig. 5 and 5a, under the name of "Cône of Cecile". It shouldn't be confused with another very different shell, that to which Kiener gave the name of Admiral Cécile, and which is *Conus cecilei*.

It has been forgotten in all the monographs that we know of. Neither Kiener, nor Reeve, nor Sowerby mention it, nor did we, ourselves, in our recent catalogue of Cones, published by the Revue Zoologique. We are going to reproach ourselves for the same oversight, in all probability this species was first published without a description.

This beautiful cone, which shows a system of coloration very close to that of *C. capitaneus* Lamarck, and *C. mustelinus* Brug., differs completely by its characteristic sculpture, which approaches *C. pertusus* Brug., but which lacks in other respects, both the form and coloration.

We are obligated for the communication of this precious shell to the good will of M. Chenu, guardian of the Delessert collection."

Tomlin, in his catalogue of Recent and Fossil Cones, listed *C. ceciliae* Crosse as a synonym of *C. cecilei* Kiener. It would seem that Tomlin

never saw an example of C. ceciliae, and the similarity of spelling caused him to confuse it with C. cecilei. The latter is now considered synonymous with C. lignarius Reeve, which again is quite different and referable to the subgenus or section Pionoconus.

This is the only example of this shell I have seen, (although I have heard of another in a private collection). Nothing seems to be known about its range, however I imagine they live in the Indian Ocean.

(The accompanying sketch was drawn by Anthony D'Attilio.)

SOME IMPORTANT NAME CHANGES OF LOCAL SHELLS

In 1958 the Paleontological Research Institute of Ithaca, New York, published a study by S. C. Hollister of the genus Busycon. This is a very important paper for many reasons, but for local collectors its chief value lies in the suggested name changes of two of our largest and rather common sea snails. The changes are the following:

Busycon canaliculatum Linné, the channeled whelk, is put in the genus Busycotypus Wenz 1943 (equals Sycotypus Gill 1867, unavailable because it was preoccupied by Gray in 1847), and should now be called Busycotypus canaliculatus Linné. Busycon carica Gmelin has an earlier name, Busycon aruanum Linné which, by the laws of priority, must now be used. This latter change is a particularly difficult one to accept, since in all books and papers dealing with our local shells, the name for our graceful knobbed whelk has always been carica. The author of this little NOTE wonders if the name carica should not, by a decision of the International Commission, be preserved as a nomen conservandum since it has been in use for far more than the fifty years required to enable the ruthless use of the law of priority to be set aside.

The first change is one of opinion: what is a subspecies in contrast to a full species? It is important to note in this connection that Dr. Tucker Abbott in his definitive AMERICAN SEASHELLS (1954) regards Busycotypus as a subgenus and calls the shell Busycon (Busycotypus) canaliculatum. In all likelihood this is the name that will generally be accepted, for reasons of convenience if nothing else.

mkj

JOHNSONIA, Monographs of the Marine Mollusks of the Western Atlantic

These monographs are invaluable to all students of our east coast shells. From No. 1 of Vol. 1 on Strombus (1941) to the newly received No. 41 of Vol. 4 on Lithophaga (which will be reviewed in our next issue), each paper is most comprehensive in its coverage. Though Volume 1 is out of print, later papers are available and we suggest you obtain them and become a regular subscriber to JOHNSONIA. For back numbers and your subscription, write to Dr. W. J. Clench, Editor, Museum of Comparative Zoology, Cambridge 38, Massachusetts.

NOTE ON SHELL COLLECTION OFFERS: It should be understood that any one inquiring about any collection offer noticed in this publication does so on his own responsibility. The Editors of the NOTES cannot hold themselves responsible for the condition or quality of, or anything else connected with such collections.

NEW YORK SHELL CLUB NOTES No. 86 Nov. 1962

President
HAROLD S. FEINBERG
2334 Tiebout Ave.
Bronx 58, N. Y.

Recording Sec'y
WILLIAM E. OLD

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, DECEMBER 9th, 1962, at 2:00 P. M.

PROGRAM:

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

PUBLICATIONS

BOOK REVIEW:

HOW TO KNOW THE EASTERN LAND SNAILS,

by John B. Burch, Museum of Zoology, Univ. of Michigan

Pictured Key Nature Series, published by William C. Brown Co., Dubuque, Iowa, 1962. 214 pp., 471 figures, $2.50.

Before the publication of this fine key, the only work that covered all eastern land snails was the four volume masterpiece by Dr. Pilsbry. This paperback is beautifully illustrated with pen and ink drawings by the author. One section, entitled "Index and Pictured Glossary", is particularly well done and of inestimable value to the amateur worker.

To keep this book to a small size all sub-species and forms have been eliminated. This of course produces an oversimplified approach to the subject. Because of the simplification it is sometimes difficult to key out shells to the correct species. This may be a criticism of the complexity of our science rather than one of this fine book.

Although this key cannot be considered a substitute for Pilsbry's books in any sense of the word, we strongly recommend it to both beginners and advanced amateur students of land snails.

. . . H. S. FEINBERG

LABORATORY GUIDE AND NOTES FOR MEDICAL MALACOLOGY

By Emile A. Malek, Tulane Medical School, this book deals with basic malacological information. Several aspects of the medically and economically

important snails and their associate mollusks are studied...detailed tables of the medically important snails and their geographical distribution ...The data specifically presented for a graduate course in parasitology and tropical public health, although the material will be useful to a wide variety of students...and invertebrate zoologists. Sewed paper cover, 150 pages, illustrations to clarify text material. $5.50. Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minnesota.

LAND MOLLUSCA OF NORTH AMERICA, by Henry A. Pilsbry, 1939-1948

Four monumental volumes, 2006 pages, 1165 beautiful figures (Tree snails, Liguus in color), all on enamel stock paper. A modern, authoritative classic of all our land species. Now limited to one set per institution or individual. $25.00 (plus 50¢ postage) from the Academy of Natural Sciences of Philadelphia, Publications Office, 19th and The Parkway, Philadelphia 3, Pennsylvania.

VITRINELLIDAE OF THE PANAMIC PROVINCE, by H. A. Pilsbry and A. A. Olsson,

1945 and 1952. Parts I & II. 83 pages, 21 plates. Do minute shells fascinate you? This will answer your Pacific Panama problems in an interesting family. Both for $3.50. Academy of Natural Sciences of Philadelphia, Publications Office, 19th and The Parkway, Philadelphia 3, Pennsylvania. (Add 50¢ postage to your remittance.)

(PUBLICATIONS continued on Page 3.)

AN INTERESTING FIND

Our members, Anne and Albert Taxson, found a giant Nassarius trivittatus in beach drift near Shinnecock Inlet (Long Island) on August 25th, 1962. The entire shell was not found, but only the body whorl, which measured 15 mm. in diameter. Since the regular trivittatus, with a body whorl of 9 mm. is usually about 15 mm. high, it is easy to determine that the entire shell which the Taxsons found most likely measured about 27 mm. in height. This is a truly gigantic size for a species which is usually 3/4 inches (Abbott) or 16 mm. (M. Smith) in height.

The size is so monstrous that it deserves a few extra words of comment. The Taxson shell is almost twice as big as the normally reported trivittatus. To understand this, try to picture a Busycon canaliculatum of 14 inches, more than a foot in length!! This will serve to make more graphic the absolute giantism of this specimen. The writer of this note, for instance, is inordinately proud of a 9 inch Spisula solidissima and an 8½ inch B. canaliculatum. But these specimens are only an inch or so bigger than the generally reported size, hence in proportion only slightly larger. But a shell twice as large . . . that is something else again.

Through the generosity of the finders, the shell has been donated to the American Museum of Natural History collection, where it will undoubtedly stir the wonder of all, professional and amateur, who are interested in our local fauna.

MKJ

BOOK REVIEW:

THE GENUS LITHOPHAGA IN THE WESTERN ATLANTIC

by Ruth D. Turner and Kenneth J. Boss;
Johnsonia monograph Vol. 4, No. 41, September 1962

This monograph measures well up to the standard we have all been led to expect from this outstanding series of shell papers. As usual, it is thorough, beautifully illustrated and, in general, the last word in its field. This number is embellished, in addition to the superb shell illustrations that are so characteristic of all the monographs in this series, with a picture of the temple of Jupiter Serapis near Pozzuolo in the Bay of Naples. The purpose is to show the holes left by anciently boring Lithophaga which worked on the marble pillars of the temple when it was submerged for a time in the waters of the bay.

There is something in this monograph, however, which is of particular interest to the reviewer. As far as he knows, we find here the first official application in malacology of the new rule (1961) of the International Code of Nomenclature which forbids the replacement of a name that has been in common use for a long period of time, even though an earlier name is uncovered by a diligent mole of a student. This useful little device, known as nomen oblitum (that is: may the name be forgotten!), is used twice by the authors of this paper to save the name L. aristata Dillwyn. We wish to overwhelm them with well deserved praise. Perhaps if this blessed rule had been applied a few years ago, we would still be using such familiar names as Arca pexata, Tellina tenera, Tagelus gibbus, etc. instead of the new ones that look so strange to us and which we do not find in the older classic works that deal with the shells of our area.

At the risk of making this review too long, the reviewer wishes to call attention to another detail of some interest. Turner and Boss preserve the division of the Lithophaga into four subgenera, three of which (Labis Dall, Diberus Dall and Myoforceps Fischer) are characterized by having the shell more or less covered with calcareous incrustations. We have all collected well known species of other families that are sometimes covered with calcium, but always assumed that this was a consequence of the surroundings of the animal, with which it had little to do. That is, we know that the shell itself is formed by the mantle. But is there an organ within the animal that causes this deposit, or is the deposit, as might be thought, unrelated to the efforts of the mollusk altogether? This is an interesting problem in mollusk physiology that should be examined and elucidated. In support of the authors of the paper, it should be pointed out that in the subgenus Myoforceps the calcium cover is extended into two plates beyond the edge of the shell itself that cross in the manner of the mandibles of the bird known as a crossbeak.

. . . M. K. JACOBSON

ANOTHER GROUP OF AUSTRALIAN ENTHUSIASTS: We are pleased to learn that the Malacological Society of Australia, which has been established for some years in Malvern, Victoria, and with whom we are acquainted by their fine newsletter, has a branch in Sydney, New South Wales. The Sydney group meets on the 4th Tuesday of each month at the Australian Museum, College Street, and may no doubt be contacted through that address.

SHELL OF THE MONTH - CREPIDULA FORNICATA Linné

by Dorothy Raeihle

Our little 'slipper shell', Crepidula fornicata Linné, is so common that we usually ignore it entirely. On several Long Island beaches the empty shells are sometimes so numerous that they lend a purple tint to the windrows at the tide mark. In life it clings like a limpet to stones, other shells, each other, crab shells, almost any firm surface it finds in the intertidal area. Other common names for Crepidula are the imaginatively descriptive 'boat shell, 'baby's cradle' and 'slipper limpet'. But this little gastropod is not a limpet. The true limpets are the Patellas and Acmaeas. Crepidula fornicata and the other so-called 'slipper shells' belong to the family Calyptraeidae which includes the Crucibulum, our 'cup-and-saucer shell'. The Calyptraeidae have an inner shelly structure (the 'cup' in the Crucibulum and the 'shelf', or 'deck' in the Crepidula) which is lacking in the true limpets.

On one of our May field trips I noticed some especially fine and clean specimens and decided to collect a few for observation. Using a quick twisting motion to take them from the rocks ruined them -- a part of the animal was left on the rock in a yellow smear. So I searched until I found some clinging to pebbles small enough for me to carry stones, Crepidula and all, in a jar of sea water.

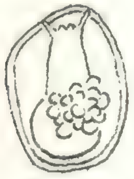
At home, with much care I managed to get them off their stones intact. (The best way is to catch them while they are walking.) I put them upside down in a dish of sea water and observed them under magnification: The females were brooding clusters of egg cases filled with golden yellow eggs. This explained the yellow smear that had been left behind when I had forced the Crepidula from their rocks. The transparent cases were attached to the body of the parent by membranous filaments or tubes. The large Crepidula, 1 3/8" long, had over 40 of these egg cases in the cluster. A small one, 3/8" long, carried only three cases in its cluster. I tried to count the eggs in an egg case, but kept losing count between 25 and 30.

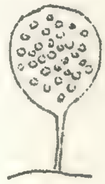
The eggs carried by any one female were in the same stage of development, but in the specimens I had collected were eggs in three stages of development. The least developed were just yellow spherical globs, egg yolks, with no movement. Next was the young mollusk in the trochophore, or larval, stage, with a short fringe of fast-working cilia surrounding the yellow ovals within the egg. In one female the cluster of egg cases was stringy and greyish instead of being inflated with golden yellow eggs, and I thought at first that perhaps I had collected a dying specimen. But this one proved the most fascinating: the young Crepidula were in the process of being born, spilling out of the cases and swimming around in the salt water. I collected some with an eyedropper and put them under greater magnification (100x), where I watched them tumble around, extremely active, in the pool that was only a drop of water. They were in the veliger stage, lengthened cilia fringed the two velar lobes, the minute shell of the protoconch was formed and rigid but so transparent I could see the 'pulse' of the animal within. On continued observation I was surprised to see that they had operculums -- surprised because I had never thought of operculums in connection with Crepidula. It must disappear at a very early stage, because I have found no vestige of an operculum in specimens 1 mm in length.

Crepidula upside down and alone in a dish of sea water could not turn over,

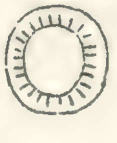
but when I put stones immediately alongside of them they could extend their foot sideways enough to get a purchase and climb the stone. I picked up and returned one little male to where I had found him, on the back of a larger shell, but evidently I had not done it right, for after a few minutes of quiet he raised his shell high, made an 'about face', then settled himself snugly in the matching contours of the shells.

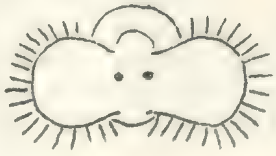
Captive Crepidulas have not lived long for me, so on our next trip to the beach I returned the survivors to their own habitat.

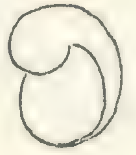

Living C. fornicata with egg cases


Single egg case

Egg

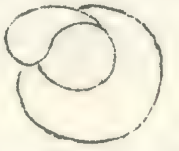

Trochophore


Veliger


Protoconch

* * *

One of our members asked if I had observed the egg cases of Crepidula other than fornicata. I had not. Some time later I obtained one specimen of C. convexa with egg cases. It was very hot weather and by the next day, when I was able to take a look, the animal was thoroughly dead, the egg cases were decomposing, and observation was difficult. However, the ½" long convexa carried many egg cases in the cluster, with approximately a dozen eggs in each case. This was a much smaller number of eggs per case than in fornicata, but the convexa embryos were much larger. What I saw through the microscope sent me straight to Abbott's "American Seashells" to look up Calyptraeidae, as the shape of the little protoconchs was similar to Capulus. I verified that Capulus is also in Calyptraeidae. However, these little embryos differed from those of fornicata even more: there was a rim of the dorsal shell already formed. This rim, like the brim of a hat, accounted for the difference in size of the embryos of fornicata and convexa. I hope to make further observations, but they depend on the luck of finding the animals with the egg cases in the wanted stages of development.



An excerpt from:

A CONCHOLOGICAL MANUAL, by G. B. Sowerby, Jun.; London, 1839.

The science of Conchology, delightful as it is, affords an instructive amusement for the leisure hours of those, who, retiring from the gaities of fashionable life, find their pleasure in the quiet contemplation of some of the smaller, but not the less wonderful operations of creative wisdom. And although the study of shells would be more complete, and rank higher in the scale of philosophical pursuits, were it accompanied by that of the animals inhabiting them, it still presents a fund of intellectual gratification, to many who cannot follow it beyond the cabinet and boudoir. They may examine, with admiration and mental improvement, the beautiful colouring and exquisite architecture of these wonders of the deep, and looking to the great Author of all, exclaim with an inspired naturalist, "Lo! these are parts of his ways."

(Researched by Ella Mazel)

SHELLING IN THE DUTCH ANTILLES

by GORDON USTICKE

The beginning of May saw us on our way to the Dutch "ABC" Islands (Aruba, Bonaire, Curaçao); I was not too optimistic, as several people had told me that shells were few and far between. However, Dr. Coomans kindly sent me a note of likely shelling localities.

The non-stop flight from San Juan to Aruba was a real bargain at $25.00 for two hours. From the airport we took a taxi to the "Basi Ruti", a beach hotel catering to Venezuelans (the mainland is only 15 miles away). I started shelling along Pova beach and Malmok, with results small but interesting -- a few *Voluta musica* and several small cones including *Conus spurius* (?), *dominicanus* and *perryae*(?). An early trip next morning enabled me to get several smaller shells before the wind had time to cover them with sand.

The island is quite flat except for two humps in the middle -- all the old gold mines are worked out.

In the afternoon we went to "Westpunt", the western tip of the island, and in one small cove I found a fine lot of *Marginellas* new to me, including a pretty pink one.

On the advice of a friend we moved to a Chinese hotel in Sint Nicolaas at the other end of the island, where the biggest oil refinery in the world is located. This "Esso" plant has a capacity of 500,000 barrels of oil a day.

Early next morning we drove out to an enormous dredging operation at Barcadera and here, in spite of having been picked over and over, we found a wonderful lot of shells. You have to venture into the mud after them, but results were excellent; amongst other shells I got *Voluta musica*, *Murex pomum* differently marked than ours, a long-tailed Murex (probably *Murex chrysostoma* and *woodringi*); several cones including *dominicanus*, *ranunculus*, *spurius* (?), and *granulatus* (rare); many large *Olivas* and lovely *Ancilla glabrata* in yellow and also albino forms, *Prunum marginata* a bright shiny shell, many large *Natica canrena* and a surprising quantity of the small *Pisania pusio*. The *Cymatiums* included *caribaeum*, *pileare* and an occasional *krebsi* and *rebeculum occidentale* (both quite rare shells). Altogether a very satisfactory haul.

Next day we flew in a private plane over Curaçao to Bonaire, another very flat and dry island. Bonaire is covered with rocks, making for very rough going. The northern part of the island is rather hilly, but hard to approach -- there are almost no beaches, just more rocks and stones. This island is one of the few remaining nesting grounds for the lovely pink flamingoes. A few thousand live here, and seem to feed on *Cerithium variabile* and *Cerithidea costata* mainly.

At first all we could see were *Strombus gigas*, but more careful hunting along the southwest coast produced many fine *Vasum capitellus*, a few very large *Conus ranunculus* (up to 80 mm.), *C. dominicanus* (up to 60 mm.) and *Conus granulatus* (up to 50 mm.) -- all exceptionally large for these cones. We also found quite an assortment of shapes and sizes of *Voluta musica* and an occasional *Charonia variegata* and fine large *Strombus gallus*.

We next took a short boat ride to Klein Bonaire, a small island off the west coast. There also the going was very rough, as the whole island seemed to be covered with loose stones. We found little except for some small shells.

We flew to Curaçao, but shelling was poor. A large part of the rocks are covered with thick black oil, presumably from the huge "Shell" refinery. Curaçao seems to have much the same fauna as Bonaire.

After spending a few days on this picturesque island we flew back to Aruba, and found that large dredging operations (100,000 yards of fill a day) were in progress just north of the Grace Line docks.

Here we found hardly any cones or Murex, but many *Strombus pugilis*, *Strombus costatus spectabilis*, *Ancilla glabrata* and *Pecten zic zac* (nearly all broken), and some *Voluta musica*, including a large, beautiful live pink and black shell that my wife had to sink in up to her knees to secure. There were large *Cymatium pileare* and *krebsi*, and also the very rare *Fusinus closter*. I was very happy to get *Cypraea surinamensis*, missing in most collections, which Schilder erroneously reports from St. Thomas.

In the shallow muddy water near Oranjestad I was shown what seems to be a new cone, similar to *Conus jaspideus pygmaeus* Reeve, but smaller and sharply shouldered. Here also is that peculiar shell *Umbraculum plicatulum* which is on top a jelly sausage.

We did not go to Venezuela, but from the shells I saw which were collected there, the fauna seems very different. On Paraguaná Peninsula *Cypraea mus* is not uncommon, also *Cymatium parthenopeum* and *Turritella variegata*. Oddly, *Aequepecten gibbus* seems identical with the Sanibel shell, and the commonest Chione seems to be *Chione pectorina* Lamarck. The common *Tegula* is *T. viridula*.

As a result of our trip of over three weeks, we came back with about sixty pounds weight of shells.

Welcome to the following new members:

Larry Parks - 15 Rogers Ave., Bellport, N. Y.
Mr. & Mrs. Robert J. Nichols, - 55-05 Woodside Ave., Woodside, N.Y.
Mrs. Luisa Fanning, 210 W. 90th St., New York 24, N. Y.
Dr. Elsa Gonzales, - 328 E. 30th St., New York, N. Y.
Joseph Greco - 97 Altmar Ave., West Islip, N. Y.
Mrs. Eva Hammerschmidt - 74-15 35 Ave., Jackson Heights, 72, N.Y.
Mrs. Frances Harmon - 464 Riverside Drive, New York 27, N. Y.

One of our recent members, Mrs. Jane Zager had a novel idea to offer -- she suggested that members bring in their requests for shells they want to the meeting and a committee be in charge of arranging the swaps! A list of duplicate shells of the person requesting shells, might be a helpful addition so that these swaps could be arranged. Our president, with his usuable promptness and efficiency, appointed Mrsa. Zager as the committee in charge of this project! So - contact Jane with your requests and list of shells you want to exchange!

NEW YORK SHELL CLUB NOTES No. 87 Dec. 1962

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2334 Tiebout Ave.
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GRACE MC DOUGALL
16 Baxter Avenue
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Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N.Y.

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
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ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JANUARY 13th, 1963, at 2:00 P. M.

PROGRAM: WHAT IS CYPRAEA ARABICA NIGER? (Illustrated)
By William E. Old
THE STORY OF THE REDPATH MUSEUM. (Illustrated)
By Dr. Walter H. Jacobs
SHELL OF THE MONTH by Nick Katsaras

* Exception in April, 1963, when the meeting will be held on April 7th.

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AT THE DECEMBER MEETING:

Nick Katsaras' topic was "Australia and Its Mollusks", and included descriptions of localities where several popular species are found. . . Dr. Joseph Abramson told us of some current medical research involving mollusks (summarized in this issue). . . . Stanley Levine showed us slides of cone-like shells and cone spires (see article in this issue). . . It was agreed to supply name tags for wear at our gatherings. . . We adjourned with best wishes all around for a happy holiday season!

dr

AH, THOSE INDO-PACIFIC MOLLUSKS!

To be in a line of business which sends you traveling should have some merit, especially for a shell collector. When this leads one to stop at such far off places as the Fiji Islands and Australia, well....! Our member Stanley Sokoloff has recently returned from such a tour of duty, and his training in seeking shells on our near shell-less beaches stood him in good stead for the few moments he was able to spend collecting on the coral reefs of Fiji and later some collecting at Victoria, Australia. A display of some of his trophies at our December meeting makes us look forward to a formal account of his trip at an early Shell Club meeting.

AD'A

COLLECTING MIOCENE FOSSILS IN VIRGINIA

By William E. Old

On a recent visit to Virginia I accompanied Mr. and Mrs. George Stevens of Virginia Beach, and Mrs. P. W. Israel of Hampton, to Rice's Pit at Hampton. This site is located on private property and permission had been obtained to enter and look for shells. The pit is a recent excavation and the sand was used to supply fill for approaches to the Hampton Roads Bridge-Tunnel. The fossils found there are of Miocene age. The pit covers several acres and resembles a muddy miniature Grand Canyon. The upper layers are of course sand reminiscent of similar strata at Bacon's Castle and Cobham's Wharf -- sites I've often visited on the James River.

In the lower levels of the pit, the sand is replaced by bluish-gray diatomaceous earth. The fossil shells differ somewhat from those in the higher levels, and a whale skeleton (probably a Zeuglodon) was recently uncovered on the "floor" of the pit.

The Stevens began collecting shells when stationed in Florida. Since their transfer to Virginia they have taken up fossil shelling, and have made regular weekly visits to Rice's Pit. Their growth series of Ecphora quadricostata and Aurinia mutabilis are astonishing. They are now specializing in Echinoderms, barnacle plates, and sharks' teeth.

Aurinia solitaria

Ecphora quadrcostata

Conus diluvianus

Last spring Mrs. Israel gave me a fine specimen of Aurina solitaria from Cobham's Wharf. The remarkable thing about it was the fact that the original color pattern was preserved. This volute, incidentally, looks a great deal like Clenchina marionae Pilsbry, a deep-water species occurring off Florida today.

The first major find of the day was when I found a good specimen of Aurinia solitaria similar to Mrs. Israel's specimen. "I'm ready to go home," complained Mrs. Stevens. "I've been coming here for five months and

haven't found one of those in that condition!"

Lyropecten jeffersonia were plentiful, many of them with barnacles still *in situ*. Almost everything was in a remarkable state of preservation. I found a cluster of *Crepidula* still adhering to one another. *Conus*, *Oliva*, turrids, *Cancellaria*, *Terebra* and *Turritella* were plentiful.

After lunch the others went over to the south side of the pit. I decided I had about enough fossils and went off towards the woods, but did not find any reptilian fauna about.

My favorite fossil is *Ecphora quadricostata* and I had never found a good one. In fact, I recall several trips to the James River bluffs in an effort to locate *Ecphora*. There they are to be found only in the lower levels and in a poor state of preservation. A friend once found one, only to have it disintegrate when he swished it in the river to wash it. (That was not his lucky day; later he fell off the cliff -- into a soft, but deep, bed of poison ivy.)

When I went to rejoin the others I noticed a fist-sized ball of clayey sand in a gully. It had washed out of a higher level during a rain. Perhaps it had been dislodged during the storm the very night before. At any rate, the tell-tale ribs of *Ecphora* were exposed and I picked it up. "Can't be a very good one," I thought, "since so much of it is exposed." I began peeling off the clay as I walked along (a far cry from the camel's hair brush pampering the crumbly James River *Ecphora* used to receive). The more I cleaned the shell, the better it looked. It turned out to be as fine a fossil to be hoped for, and certainly the best *Ecphora* I have found in ten years of huntin' the critters. . .

STUDYING SHELLS WITH ULTRA-VIOLET LIGHT

Upon arriving back at the laboratory, I sorted and cleaned the fossils and noted that the patterns remained visible on many of the *Conus*, *Oliva*, and volutes. I had read of bringing out the color patterns of fossil *Conus* and *Scaphella* from the Caloosahatchee deposits of Florida under ultra-violet light.

The Caloosahatchee fossils remain an enigma to paleontologists. Long considered to be of Pliocene age, teeth of a Pleistocene horse have been found in the deposits. These remains are from one of the true wild horses of North America, that had disappeared or emigrated to Asia over the Bering land bridge long before man arrived on this continent via the same route. The true wild horse should not be confused with feral descendants of the domestic horse introduced from Europe by the Conquiscadores in the present millenium. (a vicious circle.) Otherwise the paleontologists would have expected remains of the Pliocene horse, *Pliohippus*, rather than *Equus leidyi*, had the deposits been of earlier deposition.

Under long-wave ultra-violet light the patterns of *Conus*, *Scaphella*, *Fasciolaria* and *Mitra* glowed bright yellow. Actually what one sees is a *negative pattern*. In life the shells could have been compared to the present day *Scaphella junonia* and *Conus spurius atlanticus* - white shells with dark brown spots. But under ultra-violet rays the spots fluoresce yellow and the rest of the shell remains dark. Thus the effect is like looking at a photographic negative.

The muscle scars of bivalves also reflected yellow. No reaction was noted

on the exterior of Lyropecten or Ecphora other than barnacle scars showing up. Cypraea, Oliva, Aurinia and other glossy shells were disappointing in that there was no reaction to UV. Apparently the rays were unable to penetrate the discolored glaze in these shells.

I found that only those shells with a clean, unabrazed surface are worth viewing with UV. Also, fossils on which the original pattern may be seen in shades of cream or tan will react best to UV. A good example of this was Athleta spinosa from the Eocene of France.

I wondered if there might be a possibility of "dating" fossils with UV. The controversial Caloosahatchee material fluoresced the same as specimens of known Miocene or Eocene age.

There are Recent shells which glow under ultra-violet due to the presence of the chemical porphyrin in the shell. Cypraea mappa reacts a brilliant magenta and Fissurella volcano a cherry red under long-wave UV. I found that Fissurella laticostata from Chile, and Dr. Coomans found Pinctada martensi, also to reflect red.

Since I wanted to show the results to the shell club, I selected examples of all shells discussed above and mounted them in a display case. At the meeting,* the lights were turned out and the members came up one row at a time to view the shells under ultra-violet.

Mr. Jacobson mentioned that the reference books refer to the shape of the pallial sinus in distinguishing the local species of Tellina. "You can see the pallial sinus in only a very few of the specimens. Why not try the little Tellina under ultra-violet?" However, I tested a lot of Tellina from Barnegat Light, New Jersey, and found that the pallial sinus fluoresced in only one individual.

*(Mr. Old presented this exhibit at our meeting of November 11th.--Ed.)

MOLLUSKS IN MEDICAL RESEARCH *

A summary of the material presented December 9th

The accidental discovery in 1960 that mice fed on canned abalone juice were more resistant to experimental poliomyelitis than those given other diets, has stimulated search for antibiotics in abalone and in oyster meats.

A recent report by Dr. C. P. Li and his co-workers has revealed further data on this problem. Fractions of abalone juice were found to be active against the penicillin-resistant staphylococci which are always a source of danger in hospital infections.

Studies have shown, too, that they contained antibacterial as well as antiviral substances. This has stimulated further search in other mollusks for properties which may effectively protect and combat viral and bacterial infections and diseases.

. . . JOSEPH L. ABRAMSON, M. D.

*(See also NOTES #79 --Ed.)

"PHONY"- CONUS

by Stan Levine

In the course of being a collector or shells I've become more and more a collector of cones. Tucked away in one drawer of my cone cabinet is a small group of shells which at first glance seem to belong there, but really do not.

One of these shells has been named *Conus coromandelicus* Smith. As a result of further study it was decided that this was not a cone, but a turrid, placed in *Conorbis*. So, *Conus coromandelicus* became *Conorbis coromandelicus*.

Another shell in this group of "phony" conus is the former *Conus atramentosus* Reeve. "Former" because it has been placed in the *Turridae* as *Mitromorpha* (*Lovellona*) *atramentosa* Reeve.

The next imposter went under the alias of *Conus concinnus* Broderip, then became *Strombus dubius* Sowerby, had a few more names, and is now *Parametaria dupontii* Kiener. The description in Myra Keen's "Seashells of Tropical West America" for *Parametaria* is as follows: "Conical shells with a low spire, long aperture, and smooth outer lip." A true "phony" Conus.

There are others in my group of "phony" cones. *Mitra imbricatia conica* Schumaker, and *Mitra punctata* Sowerby, which at quick glance seem to be cones (until one sees the whorls on the columella!).

It's a sure bet that as new species of cones enter my collection some more of those "phony" cones will crash the gate, too.

Conorbis coromandelicus Smith.

Parametaria dupontii Kiener

Mitra imbricatia conica Schumaker

Mitra punctata Sowerby

NEW PUBLICATIONS:

AMERICAN MUSEUM *NOVITATES*, NUMBER 2112, OCTOBER 29, 1962

Results of the Puritan-American Museum of Natural History Expedition to Western Mexico. 16. The Recent Mollusks: Gastropoda, Conidae.

By William K. Emerson and William E. Old, Jr.

This paper will particularly interest the serious student of Conus. It contains 36 pages of text plus bibliography. There are 20 figures. A publication of the American Museum of Natural History, Central Park West at 79th Street, New York 24, New York. Available from the Museum's Library. Price $.40.

OBSERVATIONS ON COLOR FORMS IN MOLLUSCA

By Anthony D'Attilio

It is no unknown fact that albinistic individuals normally occur among many species of molluscs. Melanism occurs as well, at the opposite extreme, among normally light-colored animals. Such aberrant forms are found either among particular species throughout their range or such albinism and melanism may occur only in restricted populations over part of the geographical range.

An example of this is the occurrence of a pure white form of *Murex* (*Naquetia*) *triqueter* Born in a population at Zanzibar. Normally and throughout its range in the Indo-Pacific this is a variously banded brown shell. An example from the other end is the interesting color variation in a Muricid species normally white. This reference is to *Murex* (*Homalocantha*) *pele* Pilsbry (= *Murex anatomica* of Japanese authors, not *Murex anatomica* Perry). Examples of this species from Japan, in the possession of the author, in addition to white are colored shades of pale violet, brown, grey and pink. One spectacular specimen, surely outstanding, is entirely colored a rich salmon red.

This foregoing discussion merely touches on the fringes of a very interesting field for study since, besides genetic factors, others such as food and chemical factors in the environment are undoubtedly causative agents. In certain areas it is known that entire populations of certain species may be pathologically deformed. For some unknown reason this is very likely to occur very frequently in the *Cypraeidae*. Such a colony exists on the coast of Somalia, East Africa, where all sorts of distorted variations of *Cypraea tigris* occur. Another such famous locality is in New Caledonia, where pathologic distortions of the shell of *Cypraea* occur in conjunction with melanism.

On the other hand, the so-called pellucid color forms of various *Cypraea* given names in the literature of *Cypraea* have often proved to be merely subfossil shells. The naming of such color forms in *Cypraea* as well as *Murex*, *Conus* (*Conus suffusus* Sowerby, an albino *Conus marmoreus*) etc. has helped to unnecessarily clutter the nomenclature of shells.

About our January Program: Bill Old's presentation, "What is Cypraea arabica niger?" is practically a command performance -- He will repeat for us the presentation he made last summer at the A. M. U. meeting in St. Petersburg. . . Doc Jacobs' "Story of the Redpath Museum" will bring back pleasant memories of the A. M. U. meeting two years ago, and the special exhibit set up for that occasion. . . Nick wouldn't tell us about his "Shell of the Month" -- wants to surprise us. . . Pres. Feinberg hinted about a mystery guest -- we don't know about that, either. At any rate, it promises to be a lively meeting.

You should all by now have your calendars for 1963. Why not encircle the meeting dates for the coming year right away? Here they are:

January 13th
February 10th
March 10th

April 7th
May 12th
June 9th

July ...
August ...
September 8th

October 13th
November 10th
December 8th

DECEMBER, 1962, SUPPLEMENT TO ROSTER OF NEW YORK SHELL CLUB

We welcome the new members, and bring you up to date on address changes received since our May, 1962, supplement:

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210 West 90th Street
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328 East 30th Street
New York 16, New York

GRECO, Mr. Joseph
97 Altmar Avenue
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35 Madison Avenue
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HAMMERSCHMIDT, Mrs. Eva
74-15 35th Avenue
Jackson Heights 72, N. Y.

HARMON, Mrs. Frances
464 Riverside Drive
New York 27, New York

HARRIS, Mr. Gerald
63 Charles Street
New York, N. Y.

KLEPPER, Mrs. Richard
7 Orange Grove Road
Singapore
Malaya

LEE, Mr. Harry G.
Cornell Medical School
445 East 69th Street
New York 21, New York

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5025 Broadway
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SZE, Mr. & Mrs. Kenneth
2411 Webb Avenue
Bronx 68, New York

THOMPSON, Mrs. R. Louise
Sugar Bush Farm
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TRICOMI, Mrs. Anita
54-02 39th Avenue
Woodside 77, New York

UNGER, Mr. & Mrs. Arthur G.
787 Kimball Avenue
Yonkers 4, New York

WICKS, Mrs. Vilma
211 North Road
Caulfield S. E. 8
Victoria
Australia

CHANGES IN ADDRESS

FREED, Sam
701 Bailey Avenue
Elizabeth, New Jersey

GOLDEN, Dr. Joseph
School of Social Work
University of Puerto Rico
Rio Piedras
Puerto Rico

JOHNS, Miss Veronica P.
525 East 81st Street
New York 28, New York

JOYNER, Miss Katherine E.
44 East End Avenue
New York 28, New York

LEVINE, Mr. Stanley
34-05 12th Street
Long Island City 6, N. Y.

LEVITEN, Mr. Paul
1750 Morgan Terrace
Beloit, Wisconsin

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125 Franklin Avenue
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5 Downey Drive
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As we go to press, we are happy to welcome

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COHEN, Mr. Norman
310 Riverside Drive
New York 25, New York

NEW YORK SHELL CLUB NOTES No. 88 Jan. 1963

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Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
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The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, FEBRUARY 10th, 1963, at 2:00 P. M.

PROGRAM: ANNUAL ELECTION OF OFFICERS.

A TRIP TO AUSTRALIA AND THE FIJI ISLANDS and
A DISPLAY OF SHELLS AND PRIMITIVE ART
By Stanley Sokoloff.

THE SHELL INDUSTRY AT CAPE HENLOPEN, DELAWARE
By Mathilde Weingartner.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y promptly of any change in address.

"CREATURES BENEATH THE SEA" --- AN AMNH EVENING LECTURE SERIES

Dr. Meredith L. Jones will discuss the strange lives of animals such as sponges, clams, crabs and starfish...and their relationships to the various marine environments in which they are found. Eight lectures, Tuesday evenings 7:30 - 9:00 P. M. beginning February 19th. Fee $12.00. For information call TR.3-1300, Extension 445, or write to Adult Education Division, American Museum of Natural History, Central Park West at 79th Street, New York 24, New York.

THE 1963 ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION

will be held in Buffalo, New York, on June 18 through June 21, 1963. The Buffalo Museum of Science and the Conchological Section, Buffalo Society of Natural Sciences, are co-hosts. . . The field trip will be a tour of Niagara Falls with collecting at Niagara Glen or on the shore of Lake Ontario. A second trip to Eighteen Mile Creek, famed for fossils, may be arranged for paleontologists if enough interest is evinced. . . All are urged to include this meeting in their vacation plans.

. . . From AMU ANNUAL REPORTS.

SHELLS OF THE PALISADES

By M. K. Jacobson

Land and fresh water shells are not easily found in the entire metropolitan area of New York City. However, a knowledge of their habits and application of diligent search can discover a large number of interesting and sometimes beautiful species, especially in the area of the Palisades.

On the banks of the Hudson River, living in mud near the shore, can be found the small Mystery Snail (Campeloma decisum) as well as occasional shells of the small brackish water mussel (Congeria leucophaeata). Other fresh water shells are also found, as well as an occasional stray marine shell.

In the ponds everywhere as well as in small streams live such common fresh water shells as the Tadpole Snail (Physa sp.) and its brilliant close relative the Polished Tadpole (Aplexa hypnorum), the Pond Snails (Limnaea sp.) and the various forms of Rams Horn Snails (Helisoma sp., Gyraulus parvus, Planorbula jenksii, and Promenetus hudsonicus), the last three being small to tiny shells.

In larger rivers, such as the head waters of the Hackensack in Rockland County, are larger river mussels: the Fragile Mussel (Anodonta sp.), the Filter Clam (Elliptio complanatus) and, most interesting of all, the Pearl-Bearing Mussel (Margaritana margaritifera). These clams can be found by feeling for them in turbid waters or looking for them (for which a little practice is necessary) when the water is clear.

In addition, most ponds and lakes have various families of Finger Nail Clams, ranging from the large, brownish Sphaerium rhomboideum to the medium sized Musculium to the tiny triangular Pisidium. An interesting small snail that was introduced from Europe and is found in large numbers in several creeks is the Faucet Snail (Bulimus tentaculatus), so called because at times it breeds in such numbers as to appear in the faucets of kitchens which are fed by snail-inhabiting streams. In addition there are a number of small to tiny other fresh water mollusks like: Valve Snails (Valvata sp.), Tiny River Snails (Amnicola porata) and Fresh water Limpets (Ferrissia sp.). A handsome, large and heavy shell is Virginian Horn Shell (Goniobasis virginica) which we have found so far only in the North Branch of the Raritan River. Occasionally we find the recently introduced Chinese Mystery Snail (Viviparus malleatus), a large inflated, handsome greenish olive operculate mollusk.

Land shells are even harder to find, but in shady areas, under moist (but not wet) shelters like fallen tree trunks, discarded corrugated boxes, leaves, paper and bits of wood, they turn up in satisfactory numbers. The largest are the White-lipped Forest Snail (Triodopsis albolabris) and its close relative, the Common White-lipped Snail (Mesodon thyroidus). Almost as large and much more colorful are the Striped Forest Snails (Anguispira alternata) and the Three-toothed Forest Snails (Triodopsis tridentata). A rare snail, covered in life with a hairy epidermis, is the very interesting Hirsute Forest Snail (T. denotata). Although we have as yet no records of the snail from the Palisades area, it is likely that the English Garden Snail (Cepea nemoralis), a very recent introduction, lives somewhere near gardens and in compost heaps. Other, larger snails are the various forms of the glistening snails (Oxychilus sp. and Mesomphix

sp.), the Pill Snails (Stenotrema sp.), the Cannibal Snail (Haplotrema concavum) (so called because it is a predator on other snails, which are largely vegetable and fungus eaters), and the Amber Snails (Succinea sp.). There are also large numbers of small to tiny snails like the flattened Zonites (Zonitoides sp.) and Disk Snails (Discus sp.), the elongated but truly tiny Pupa Snails (Gastrocopta, Vertigo, Columella etc.) and the small but handsome Apple Seed Snail (Cionella lubrica). Mention should also be made of Vallonia, and the tiniest of all land snails, the Tiny Mulch Snail (Punctum minutissimum). To complete the roster, we add the following: Hawaiia minuscula, Retinella sp., Euconulus sp. (the Beehive Snails, so called from their shape which makes them resemble a tiny, old-fashioned bee hive) and Strobilops sp., the Labyrinth Snail, which gets its popular name from a number of small ridges inside the aperture that look like a very simple maze or labyrinth.

(All the species of shells mentioned in the above article are described and illustrated in the handbook THE SHELLS OF THE NEW YORK CITY AREA by Morris K. Jacobson and William K. Emerson, 1961. --Ed.)

BIVALVED GASTROPODS IN THE HAWAIIAN ISLANDS

The discovery in 1959 by Kawaguti and Baba of the bivalved gastropod, Berthelinia limax, created a stir in the malacological world. (See NOTES #82) Since then species of this tiny, fascinating mollusk have been found in the tropical waters of Australia, Hawaii, Baja California and Jamaica through search instituted by the discovery in Japanese waters. Now Alison Kay of the Department of Zoology, University of Hawaii, reports for the Hawaiian Shell News (December, 1962) her finding of two more species. The article is entitled as above and is accompanied by a remarkable photograph of a living Berthelinia sp. from Koloa, Kauai. We quote from Dr. Kay's article:

". . Dr. Myra Keen drew attention to a beautiful small green bivalved shell which had been described from the Hawaiian Islands in 1862. The shell, delightfully named Julia exquisita by Augustus Gould, was described from some beachworn specimens, and is the type of the genus Julia which was naturally considered to be a pelecypod. .

In February 1962, quite by accident, three specimens of a small, green bivalved shell fell into my hands from the sand pocket of a rock, again near Koloa, Kauai. The bivalved shells got up and walked -- like gastropods. And they carry shells which closely resemble Gould's original description, thus bearing out Dr. Keen's hypothesis that Julia exquisita is indeed a bivalved gastropod. The next problem was to find their seaweed habitat, for it obviously was not Caulerpa; in April the problem was solved: several more animals were found, this time on the fronds of a related seaweed genus, Microdictyon.

But this is not the end of the story: along with the find of the second lot of J. exquisita there appeared several similar animals with shells about half the size of J. exquisita, being about 2.5 mm in length, and with a different pigment pattern. They apparently represent a new species of Julia. . "

ON MUREX (PTERYNOTUS) PATAGIATUS HEDLEY

By Anthony D'Attilio

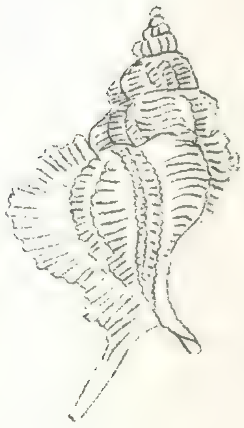
The seemingly endless number of new forms of Amoria and other Volutids that are in the process of discovery around Australian waters is a constant source of pleasure and surprise to all students. Of course new species of Conus, Murex, Cypraea etc. are also occasionally discovered. Among these, Murex patagiatus has come to my attention in a specimen taken off Townsville, Queensland, by Captain Tom Nielsen. It is live collected, showing a light orange color over the entire shell except the varices.

Murex patagiatus was treated at some length in "Journal of the Malacological Society of Australia", 1961, No. 5, by McMichael. Upon comparison with examples of Murex pinnatus Swainson from Tosa, Shikoku Island, Japan, it is evident that the two species have much in common. However, the differences are as follows:

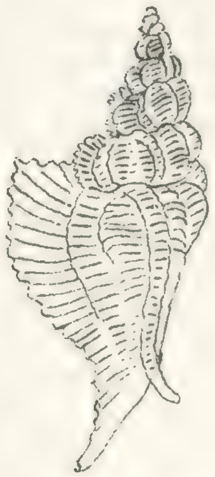
Murex pinnatus appears much more triangular throughout its length, the foliated varix next to the lip extends almost the entire length of the siphonal canal; the body whorl is notably different, appearing rather elongate in pinnatus and roundish in patagiatus. The lamellate varices are more prominently developed over the shell of pinnatus while in patagiatus the only prominent lamella is on the lip side of the aperture on the body whorl only.

Altogether, M. patagiatus is a dainty Murex and, even beside a fine pinnatus, is quite lovely.

As far as is known, no color has ever been noted on Murex pinnatus.



Murex (Pterynotus) patagiatus Hedley



Murex (Pterynotus) pinnatus Swainson

SHELLING IN AMERICAN SAMOA

By William John Christian

(Mr. Christian is an electronics engineer whose work took him to American Samoa for six weeks. The following account was included in a letter to his sister, NYSC member Mary Subis, with the comment: "Another safari like that may never come again!")

It was great hearing that you received the live shells. These do not seem much but among the odds and ends there may be some hard to get one. I'm really sorry that my first few days of hard shelling fouled both my feet, because otherwise I would have gotten you so very much more in live shells than ever. And I say this with easy conviction. My first recon around the island showed that very few went shelling to any earnest degree. Most of the shells around were picked at low tides or found in low water again in the night. So much of the island is simply a virgin haven for shell hunters.

My very last time in the sea was my closest to bringing in just every kind you can imagine. A friend, Bill Braatz, and a chief's son had arranged an aqualung trip to Fagasa Bay, which lies just the other side of the high mountain range from the port of Pago Pago. The road took us up to the very ridge and we could see for miles to each side of the island, both east and west.

The Bay, lying on the lee side of the island, was a breathless thing of beauty. It lay sheltered in the noon sun. The palms just shimmered and rested in deep green, everything about the island is very green. This noon the sun rode high in the sky and some cottony white clouds kept it company. Down the winding, tumbling road, more like a trail we rode it bucking-bronco fashion all the way in the jeep, which was always in double-low, and finally to the little village where the chief's son had already come out to meet us. His father also came out from the fale, which is house. Actually it is simply a series of upright poles in an oval and with a thatched roof of sugarcane fronds, or palm fronds. He was an enormous man. Big like all Polynese. When we shook hands I felt like a little boy giving my hand to a full grown adult, he was that big! After the formalities he said his son would take us out in his outrigger and the sea. It was a husky canoe and three of us at one end and the big chief at the other got it in the water fine. We didn't load the aqua gear but just took snorkel and fins.

First Bill and the boy wanted to see a subterranean cave and look for possible artifacts of the forgotten past. This was the trip that fouled everything for later. We had ample time to dive right away, but the cave trip took most of the afternoon and I had to be back with the jeep before 5 PM. All went well up to the inside of the cave. The sea was gentle and we got out of the rigger and dove down and moved inward. The deeper we entered the blacker it got. Looking outward to sea, the bright sun sparkled and danced in a golden spray near the surface, with shards of pure silver falling to the sea bottom below. Add to this the countless fluttering and flashing of the multicolored fish and sea life in a panorama lighting the outward side of the cave. All this beauty made me shun the darkness of going deeper and I turned outward to the sea again. Bill and the boy hesitated, but followed.

We surfaced and rested on the outrigger, still in the cave. Right there

I said to Bill: "You two can go back, but I'm going out and dive for shell in the open. That black hole could very well hold a monster and I'm long for this world yet, and won't press my luck!" So they both decided to try it another time and joined me. It was here the boy asked if I could manage the outrigger, to which I said with full confidence: "Of course!" They would walk the beach while I would bring in the canoe along the first break in the reef and to the place we would load the lungs and dive, a spot some eighty feet deep just off the reef. Bill already did dive this area and said that the other diver with him had gotten all sorts of cones and helmets and cowries, etc. All this excited me. The sea was still gentle and with big sighs she welled and rose high as I paddled the near reef, the depth I judged to be about 15 - 20 feet at the most, and the water crystal clear. The swell would pick up the canoe and it seemed to rise higher and higher until I could almost see over the top of the shore palms, but never breaking as you remember it did, with thunder on Maui.

Water was in the bottom of the canoe and my feet were already soaked from the previous dive in the cave. I could see where the rubber fins had burned off the partly healed blisters from before and the raw tissues did bleed some. I tried slipping on a fin, but it was too painful. Instead I decided to take a look just leaning over the side of the outrigger. In a simple sort of way, I wanted to take a very brief look at the sea bottom below me and chance a dive, even. All this part of the Pacific was still one-big-surprise! Bill and the boy continued on and looked out to sea as we momentarily lost each other during an extra deep swell. Seagulls wheeled and cried in that plaintive sad way they have, overhead. I took the mask, rinsing it with one hand, steadying the canoe with the other, leaning over and dipping with the mask in place, and looked in fascination at the coral jungle and sea life teeming below. Rich and full and plenty. Some shells were in clear view, such as tigris and cones and the coral-dwelling white clams. Small leopard shark were cruising in and out of the reef. And there was always more of everything.

Then it happened! One of those gentle swells just got nasty and before the next 30 seconds everything went out of focus. The canoe turned over completely, dumping all our snorkel gear into the sea. It banged me over the head, but the lights didn't go out. Grabbing the mask, I put it on quickly and found my fins still floating under the overturned canoe, and it hurt like you-know-wot when I slipped them on. Coming up out of the mess I signalled to the others that all was well. Hyperventilating (deep breathing), I waved "okay" and, slipping below, went to the bottom collecting the gear and other stuff that did not float. Surfacing, I leaned hard into the outrigger part of the overturned canoe and righted it with precision the very first time. Dumped the gear I brought up from the bottom into the still flooded interior and started bailing. Bill stayed on shore; the boy swam out and helped me get the outrigger ship-shape once again. You can imagine how silly I felt after telling him I could manage the thing. The boy rolled into the canoe and I rested on the pontoon for a while. Then the funny part struck us, and we laughed and hard.

By this time the afternoon was slipping away fast and I had to get back with the jeep by 5 PM. So -- we decided to catch it another time and be back before I had to leave the island.

My feet turned worse and the doctor told me to stay out of the water, so

much of my remaining time on the island was spent just sitting by the sea and beachcombing while my feet healed. And this was the hardest thing I can remember I've ever done knowing how many live shells were there just for the reaching for them.

I would like to comment on the corals and the clear waters of the sea around American Samoa. Coming in by Pan American the pilot swung around the island so that we might get a real look at one of our island cousins. The island itself is rich in tales of the South Pacific. Pago Pago is a sign post. And the Rainmaker Hotel. Much of the island is lush and green. Coconut palms cover the land from end to end. I have seen a Central American vine called the "Strangler Fig". It is here on this island, too.

Very few of the island people shell and all this is shallow water. There is a shell collector's ransom just beyond the reefs and in the coral white sands between the coral heads. Shoals and bays surround the island and, from what little I did see of the underwater reef and the sea bottom, it is an intriguing world of surprise and wonder and beauty. "An amazing tangle of coral jungle" might describe it a little. And there was much, much more. . . .

FROM THE MAIL BAG: A REQUEST FOR AN EXCHANGE: "From a recent trip to the tip of Lower California I acquired an interest in shells, stimulated by the beautiful shells found on the Mexican beaches. I would like to enlarge my collection and include in it shells from many areas, both for my own interest and a high-school biology project. Perhaps you could help me. I'm willing to trade some of my shells obtained on the trip and others local and common to various places on the west coast for surplus shells your members may have to offer in exchange. I hope you will have a member interested in an exchange. . . . . Sincerely yours, (Miss) Roxanne Werden, 332 Calle Mayor, Redondo Beach, California."

A CORRECTION: Please make this correction in your December, 1962, Supplement to Roster: Mr. Gerald Harris' address should read 68 Charles Street, New York City.

NEW MEMBERS: We welcome these new members, who joined us in January:

Mr. and Mrs. William Merritt
357 East 57th Street
New York 22, New York

Mrs. Norman Parsons
420 East 23rd Street
New York 10, New York

NEW YORK SHELL CLUB NOTES No. 89 Feb. 1963

President
WILLIAM E. OLD, Jr.
900 West 190th Street
New York 33, New York

Recording Sec'y
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Corresponding Sec'y
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16 Baxter Avenue
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62-08 99th Street
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Treasurer
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17 Amelia Court
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Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
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The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MARCH 10th, 1963, at 2:00 P. M.

PROGRAM: SOME MUREX PROBLEMS, by Anthony D'Attilio (Illustrated)
SEE THEM ALIVE, A Color Slide Presentation, by George Raeihle.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify CORRES. SEC'Y PROMPTLY of any change in address.

ANNUAL ELECTION, FEBRUARY 10th

The Club gave a large "Thank you" to Retiring President Harold Feinberg for his fine work this past two years. Though we were sorry to see him leave the rostrum, we welcomed with equal affection the slate of officers proposed by the nominating committee and unanimously voted in by the attending members. Retiring President Feinberg turned over the gavel to President William E, Old, and Retiring Secretary Old relinquished his office to Recording Secretary Marian Schroth. The applause continued as the officers on the slate already incumbent were named and thanked for their services.

President Old already has planned many items of interest and education for our club members. His enthusiasm is contagious, and we know he will have a happy term of office.

WE WELCOME THESE NEW MEMBERS:

DODGE, Mrs. Philip
Upper Station Road
Garrison-on-Hudson, N. Y.

KENT, Miss Marian
236 North Walnut Street
East Orange, New Jersey

KENT, Mr. Stanley
Jordan, New York

NAIDE, Dr. Meyer
2034 Spruce Street
Philadelphia 3, Pa.

VOLZ, Mrs. R.
2440 Coolidge Avenue
North Bellmore, L. I., N. Y.

WELSH, Mr. Richard
1293 Second Avenue
New York 21, New York

A VALENTINE ! !

Casually to our editor I said I was invited to visit friends in Antigua, so I planned to hunt through my "Shell Notes" for our correspondent, Mr. Usticke's contributions and take them with me. She never gave me time to hunt. In less than a week she sent me, neatly typed and in numerical order, the exact numbers of the "Notes" in which his letters appeared.

It must have been in '57 that I timidly entered the New York Shell Club. "Shell Notes" began arriving, a few I understood, some I did not. My closets were crowded so when a chance acquaintance showed interest I handed them issues. They were easy to mail to hoped-for "corresponding members" I met as I traveled here and there. So my "Notes" were in a confused state.

Karl Jacobson in reviewing my "Romance of Shells" suggests I have many interests. My bedroom and kitchen shelves certainly prove that! Oh, how thin I spread myself--art notes here, shells there--grandchildren's interests mix through all. Clippings. Clippings yet to be read. I cannot type, I do not file. My "Shell Notes" were all mixed up. . .

Tonight they are shovelling snow outside but it is sunny and warm for me as I find d. r.'s numbered notes and follow Mr. Usticke on his bright beaches.

Now my "Notes" are in order. They never will be otherwise. Such wealth of intelligence to refresh my mind! Some talks I had missed--some I had vaguely remembered, but here in "Shell Notes" our devoted editors have recorded Sunday afternoon with such care that information is at high tide.

To have done this means hours of work for them--volunteer work patiently carried on for us. So a heart full of thanks to them all---past and present editors and corresponders. . .

L. A. TRAVERS

(Thank YOU, Louise Travers, for our "Notes'" first Valentine! --Editors and Corresponders.)

Louise Allderdice Travers is the author of the popular "The Romance of Shells in Nature and Art", 1962 (reviewed in "Notes" No. 85). Longtime member Gordon Usticke compiled and published "A Check List of the Marine Shells of St. Croix, U. S. Virgin Islands", 1959 (reviewed in "Notes" No. 56.) His above mentioned articles appear in "Notes" Nos. 27,29,31,34,35, 36,37,40,42,43,44,45,47,51,54,62,66,67,71,72,76,77,81,86 and on page 8 of this issue.

FOR SALE: A COLLECTION OF SOUTH-WEST PACIFIC SEA SHELLS

We quote from a letter to MKJ: ". . All of my shells are in excellent condition and all were taken alive. They were found off the islands of Truk, Ulithi and Guam. I have data with each shell as to place, date and at what depth found. If you are interested in purchasing my collection I will mail them to you for your inspection. . " There followed a sample list of various Cypraea, Conus, Terebra, Lambis, Strombus and Cymatium. Address inquiries to: SSgt. B. J. Tomkiell Jr., 704 Pou St., Goldsboro, North Carolina.

A NOTE ON MURεX TERRITUS REEVE

by Anthony D'Attilio

This is another handsome Murex from the Barrier Reef of Australia. *Murex territus* Reeve was described in the "Proceedings of the Zoological Society of London", 1845, and included in the same year in the monograph on Murex of the "Conchologia Iconica". The species as illustrated is a delicately branched, spiny shell with fine axial lamellae forming a frondose web between the spines on all three varices.

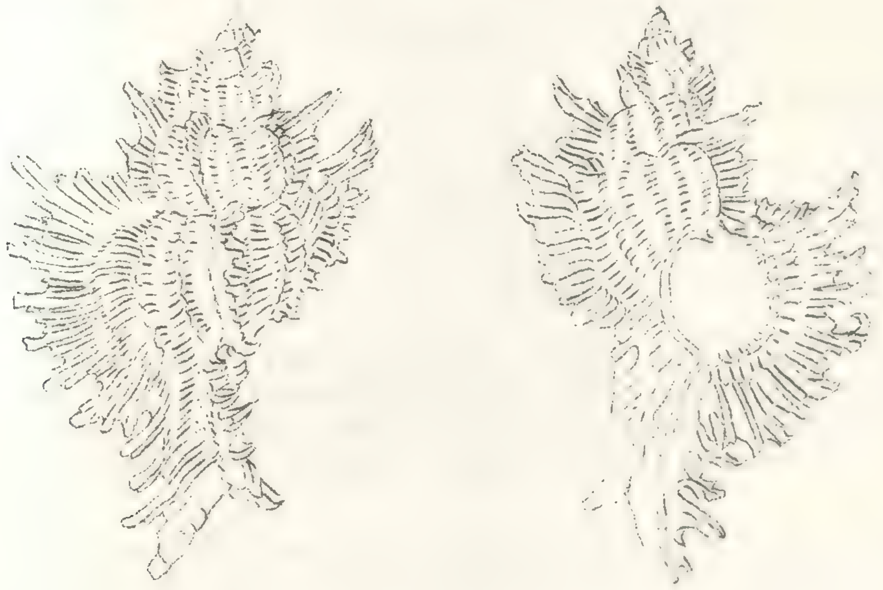
The species remained apparently little known until the recent spurt of trawling by commercial fishermen off the coast of Queensland in the Barrier Reef revealed the present species and many other interesting shells. Beautifully frilled, mature specimens can be matched well with Reeve's figures, leaving no doubt as to their identity.

Curiously enough, immature shells or specimens with poorly developed spines of a Murex species found intertidally have been well known to Australian collectors. These specimens had been unsatisfactorily assigned to other Australian species of Murex. However, an extended series shows a clear merging of characters with trawled specimens of *Murex territus*. It is apparent then that only trawled, deeper water shells have the characteristic lamellate spines of Reeve's figures.

Murex territus was listed by Cotton in the genus *Torvamurex* Iredale 1936, the type of which is *Murex denudatus* Perry 1811, a (subfossil ?) species without spines. This seems a puzzling assignment for *Murex territus* and its generic placement is in need of further study.

Literature cited:

Murex territus Reeve 1845, Conchologia Iconica, pl. 33, sp. 167a, 167b.
Torvamurex turritus (sic.) (Reeve) 1845, Royal Society of South Australia, Pub. No. 8, Family Muricidae, B. C. Cotton 1956.



Murex territus Reeve

A NOTE ON THE SPECTROGRAPHIC ANALYSIS OF SHELLS

By
H. Flaschka, Ph.D., Associate Professor of Chemistry
Georgia Institute of Technology, Atlanta, Ga.

Mr. William Old of the American Museum of Natural History has suggested that I write a short note on the analyses of some shells. Some time ago I visited the American Museum and discussed with Mr. Old some aspects of the composition of shells with special regard to the content of metals. He told me the story that Malleus malleus L., Ostrea cristagalli L., and other bivalves supposedly have an affinity for iron, and that these shells appear to oxidize. He gave me a broken specimen of Malleus malleus to test for the presence of any unusual high content of iron.

Although "wet analysis" is a suitable approach for this purpose a spectrographic investigation was preferred, because of its greater speed and mainly because it is possible in this way to obtain some information with regard to the presence of "trace elements" which may be of interest in some other connections.

Mr. E. F. Joy and Mr. N. A. Kershner of J. T. Baker Chemical Company, Phillipsburg, New Jersey, made the spectrographic analysis. Their aid in the investigation is gratefully appreciated.

Samples were taken from three places of the shell after careful removal of sand, etc., by wet brushing. The samples were taken from: (a) the lighter part of the shell, (b) the dark part, and (c) the lamella, light in color and coming loose in flakes.

Evaluation of the spectrogram by comparison of the intensity of the appropriate lines with that of standard spectra showed the following elements to be present and their approximate amount in per cent:

	(a) light part	(b) dark part	(c) flakes
Sodium	0.8	1.0	0.5
Magnesium	Principal constituents		
Calcium			
Strontium	0.5	0.5	0.07
Silver	- -	- -	less than 0.0001
Boron	0.0007	0.001	0.0002
Aluminum	0.05	0.1	0.03
Silicon	0.03	0.07	0.008
Iron	0.5	0.5	0.03
Titanium	0.002	0.008	0.003
Manganese	0.005	0.007	0.003

The iron content is definitely above an amount which one would consider as a "trace element" but seems not to be extremely high. Of course, in order to reach any definite conclusion more samples should be analysed, since data concerning the composition of shells is rather rarely found in the literature.

Care must be exercised in the selection of the specimen to be analysed. It would be best to use only shells which have been collected for that purpose or at least shells of which it is known how they have been processed. No processing at all is the best condition. Sometimes shells

are treated with various kinds of liquids, such as acids, chlorox, etc. and a film of oil is applied. It is possible that some of the material present in the liquids penetrates the shell and thus introduces trace elements which are not actually present in the original shell material. On the other hand, acids may dissolve some of the outer layer which may have a different composition than deeper parts of the shell material.

The specimen used for the present investigations was of an appearance that showed convincingly that it had not been subjected to any treatment.

Later Mr. Old sent me an Alcithoe arabica from Manikau Harbor, New Zealand. He was interested to know the composition of the deep brown, almost black covering of the greater part of the shell. Some of that layer was scratched off and subjected to a spectrographical analysis. The result in per cent was as follows:

Sodium	0.3 - 3	Silicon	0.3 - 3
Magnesium	1 - 10	Manganese	0.01 - 0.1
Calcium	10 - 100	Iron	10 - 100
Aluminum	0.1 - 1	Titanium	0.0001 - 0.01

The data needs some explanation, since adding them up gives more than 100 % which of course is impossible. The analysis is made by weighing a certain amount of material and sparking it off in the spectrograph. The spectrum is photographed on a plate which is then developed and fixed under specified conditions. The intensity of the selected lines is then compared with that of a set of standard spectra obtained under identical conditions. The content of a particular element in the standards is exactly known and the standard spectra are made with decadic increments, that is, in steps, e. g., 0.01 - 0.1 - 1 - 10 - 100%. The evaluation of the sample spectrum is made with respect to the per cent range to which the line intensity can be closest related.

Thus in the sample from the Alcithoe the data is interpreted that calcium and iron are the main constituents of the material making the deep brown layer. The high content in iron is interesting and rather unexpected, considering the small percentage of iron in the sample taken from Malleus.

DEATHS

DR. BARNUM BROWN, "Father of the Dinosaurs", Curator Emeritus of Fossil Reptiles, told how he was guided into his lifework when as a youngster he collected fossil shells uncovered by his father's strip mining operation. Dr. Brown "retired" in 1942, but kept on with his work at the Museum until two weeks before his death on February 5th, having served here for 66 years. He was currently engaged in supervising the dinosaur exhibit now in preparation.

MISS MARY MILLER, of 301 East 63rd Street, a member of our club for only a brief time, but well remembered for her warm personality and enthusiasm.

MISS SIBYLLA SCHILLING, a corresponding member, of 30 Gates Avenue, Montclair, died in December after a long illness.

(The following article appeared in the "Ford Times", date unknown.--Ed.)

MUSSELIN' ON THE TENNESSEE

by Kathryn and Harold Twitty

Fires flickering along the banks of the Tennessee River these spring nights likely as not mark the camps of mussel fishermen. These are the rivermen who harvest the fresh-water bivalves whose shells are used to make shirt buttons.

It's a big business--this "digging" or "dragging" for mussels. Although the men who participate in the industry do so, for the most part, "to be on the river", they pull up about ten thousand tons of mussel shells annually, worth nearly half a million dollars. Most come from the TVA reservoirs of the lower Tennessee River--Guntersville, Wheeler, and Wilson dams in Alabama, and Pickwick, in Tennessee.

Musseling is a peculiar and little known occupation. But it is one which reaches into every home in the country. Except for the mussel fishermen, those pearl buttons on your shirt or the ones that "jet set off" the navy blue dress, would be plastic, glass, or...still on the bottom of the river. For it is from the mussel, a bivalve mollusk that is the fresh-water cousin of the oyster and clam, that pearl buttons are made.

The mussel men go out early in their mussel-digging rigs, made up of a flat-bottom johnboat equipped with a "mule", or underwater sail, for slow propulsion by the current. Attached to the boats are two long crow-foot bars, called "brails", from which dangle up to fifty four-pronged hooks with beaded points. All day long they drag these hooks slowly on the river bottom. When a hook brushes against a gaping mussel, the creature instinctively clamps his shell tightly and refuses to let go as he tries to digest the hook. After the mussels have thus hung themselves, the brail is raised and the men remove each mussel by hand with a twisting, jerking motion. The bottom of their boats filled, they head for camp where the mussels are steamed open.

There is meat inside the mussel which looks very much like that of the oyster. Unlike the oyster, however, mussels are not--in these parts--considered a delicacy for human consumption, and the meat taken from the mussel shell is sold for hog feed or used for catfish bait. The majority of the valuable mussel shells wind up in Muscatine, Iowa, world center of the pearl button industry. A heavy tonnage of shells go by way of Savannah, Tennessee, where the button "blanks" are cut, avoiding the cost of shipping the whole shells to the button finishing plant.

There is skill in distinguishing the various types of mussels: the pig toe, pistol grip, monkey face, warty back, or washboard. There are also the pocketbook, and the rabbit foot. The men have to know that a mussel shell is not just a mussel shell. There are all these odd-named varieties and more--some worth forty-five to sixty dollars a ton; others, worthless.

With the impoundment of the TVA reservoirs in the Tennessee Valley, no one, not even aquatic biologists, thought the mussel beds could survive in the deep waters of the lakes since shallow shoals were thought to be the only mussel habitats. Today, mussel beds in the Tennessee have grown larger, new ones have developed, and the mussels themselves are

larger and of better shell quality than ever before.

And so, come April, May and June, best months for musseling, the queer rigs are set up and the men once more take to the river to drag their beaded hooks over new and ever-growing mussel beds. It appears the pearl button is here to stay, as long as there are mussels and men who love the river.

EDITOR'S NOTE: We certainly had a fine time trying to find out what species were being referred to in the above article. Harold Feinberg came to our rescue with data from a book on Freshwater Mollusca (1928) by Frank Collins Baker. The Tennessee River area is particularly rich in *Unionidae*, some species beautiful outside as well as inside. Of the many intriguing and confusing common names (some of which border on the indelicate) we list these with the species to which they are applied:

Pig toe = Of the Genus *Fusconaia*, probably *undata* Barnes.

Monkey face = *Quadrula metanevra* Rafinesque.

Purple warty back, or Purple pimple back = *Cyclonais tuberculata* Rafinesque.

Three-horned warty back = *Obliquaria reflexa* Rafinesque.

Washboard = *Megalonaias gigantea* of Barnes.

Pleuroblema and *Amblema costata* are other possibilities for the Warty back or Washboard groups.

Pocketbook = *Proptera capex* Green (a rather thin shell, but with very beautiful nacre. Also:

Pocketbook = *Lampsilis ventricosa* of Barnes.

We cannot resist adding this one, even though it is not good for buttons, for the picture it brings to mind of the hazards of wading bare footed:

White heel splitter = *Lasmigona complanata* of Barnes.

Can any of our readers help us with further information on the fresh water species used by the button makers? We're really getting interested.

dr

SHELLS OF NEW ZEALAND (1962 Edition)
by A. W. B. Powell

This fine book has been so well received that our corresponding secretary has been requested to order more copies. The book contains a complete check list of the over 2,000 species of living New Zealand mollusks, maps, diagrams, figures and photographic illustrations. The pages of excellent text reflect Dr. Powell's personality, as those of us who met him last October can attest. This book is valuable also to collectors of Australian marine mollusks, and is a book you should have in your library.

203 pages, bound in heavy flexible paper, the price with postage is around $3.00. Place your order with Cor. Sec'y Mrs. Grace McDougall, 16 Baxter Avenue, New Hyde Park, New York, if you can pick up your copy at one of our meetings. We cannot mail it to you.

SOUTHGATE POND

by Gordon Usticke

There is a fairly large, very shallow body of water on the north coast of St. Croix, very close to the shore line. Ever since I have known it, it has been filled with almost fresh water, and was very muddy and completely devoid of shell life.

This could not have been always the case, as dredging operations, started in February of 1962, brought up immense quantities of shells that usually live in sheltered lagoons open to the sea. Inquiries elicited the fact that the big hurricane of 1916 permanently closed the lagoon entrance. One man told me he remembered his father going duck shooting in the Pond, known as Southgate Pond.

The variety of shells brought up by the dredging was not large -- by far the commonest was *Anomalocardia brasiliensis*, which came up in huge quantities, mostly very colorful, some in a striking rich brown orange, as well as many pink rayed shells, and a great range of markings and colors. Probably old-looking *Cerithium variabile* were almost as plentiful, and there were many *Chione cancellata*.

The shells present in lesser quantities are listed below:

Anadara notabilis
Crassostrea rhizophorae
Aequipecten muscosus
Lyropecten antillarum
Phacoides pectinatus (V.large)
Anodontia alba
Codakia orbicularis
Trachycardium muricatum
Laevicardium laevigatum
Pitar albida
Tellina angulosa
Tagelus divisus
Mactra fragilis

Turbo castaneus
Astraea phoebia
Neritina virginea
Littorina angulifera

Modulus modulus
Cerithium eburneum
Cerithium litteratum
Batillaria minima
Crepidula sp.
Strombus gigas
Cymatium nicobaricum
Cymatium pileare
Cymatium muricinum (large)
Cymatium femorale
Murex pomum
Murex brevifrons
Columbella mercatoria
Engoniophos unicinctus
Nassarius vibex
Fasciolaria tulipa
Conus jaspideus
Bulla striata

HELP WANTED:

The Department of Living Invertebrates of the American Museum of Natural History is still interested in volunteer help on all levels from working with shell identification, typing labels and cataloging to just plain cleaning up. Bill Old is coordinator of the program. All interested in volunteering some spare time help should contact Bill before coming to the Museum ready to work.

NEW YORK SHELL CLUB NOTES No. 90 March 1963

President
WILLIAM E. OLD, Jr.
900 West 190th Street
New York 40, New York

Recording Sec'y
MARIAN M. SCHROTH

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
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NEXT MEETING:

2:00 P. M. APRIL 7th 2:00 P. M.

FIFTH FLOOR LECTURE HALL

AMERICAN MUSEUM OF NATURAL HISTORY

This is an exception to our regular schedule of "the second Sunday", and was arranged so that our meeting date would not conflict with the many personal plans extant for Easter Sunday, which falls on the second Sunday of April. . . The lecture hall is in the same wing of the museum as Room 319. To reach it, use only the elevators near the Central Park entrance. . . Our May meeting will be held as usual in Room 319, on the second Sunday of the month, which falls on May 12th.

PROGRAM: REPORT ON THE BELVEDERE EXPEDITION TO THE GULF OF CALIFORNIA, by Dr. William K. Emerson. (Documentary Color Film.)
DISCUSSION OF ANNUAL FIELD TRIP.
A SHORT COLOR FILM ON MARINE LIFE.

PROGRAM NOTE: Dr. William K. Emerson of the American Museum of Natural History was a guest of the San Diego Museum on their expedition last year, and narrated this documentary film at the A. M. U. meeting in St. Petersburg last summer. We are indeed fortunate that he was able to arrange to show it to us. The expedition was for the collection of natural history specimens and the film shows us how expedition members go about their work -- and work it is -- in this area of sea and rock far from any publicized tourist attractions. Though mollusks were included in the specimens brought back, the actual collecting of mollusks is not included in the film. However, sharp-eyed field workers will spot many areas they'd like to explore. We suggest you arrive early, as the presentation is scheduled for 2:00 P. M. sharp. . . The second color film will be shown after the intermission and business meeting.

BOOK REVIEW

It is a rare book that has a snail for its hero, or at least for its protagonist. And yet such a book, a fascinating book in every respect, has recently appeared: "The Giant African Snail" by Albert G. Mead, 1961, The University of Chicago Press, $7.50. Its subtitle, "A Problem in Economic Malacology", may scare away the interested amateur, but take the word of such an amateur, the reviewer, that all fears of finding only weighty numerical tables "explained" with barbaric neologisms are groundless. Anyone who has had the pleasure of hearing an address by the author, President of the AMU, knows that here is a man who is informed, informative, and most important of all for the i. a. referred to above, hugely entertaining. Let me plunge directly into the matter to prove my point.

The book is discussing the possibilities of turning the tables on Achatina fulica, the giant hero of our work, and preparing him for the table. The point of departure for such an investigation is obviously the food habits of people who are in daily contact with the creature. The first subject interviewed in the search is a native of the island of Truk. When this worthy gentleman "was asked through an interpreter if he ate the giant snails . . he registered shock and surprise and then indulged in gesticulations and denunciations which sounded like a mouth-filling Trukees oath. Translation was not necessary. The question however was pressed further with a "Why not?" To this, no verbal answer was given. Instead, he indulged in a loud, protracted, agonizing demonstration of intense reverse peristalsis that left the interrogator weak, convinced, and without appetite." The investigation continues with another subject: "It might be of interest to note here that the . . omnivorous dog, Patty, dashed to her dish in great anticipation when the rest of the achatina stew was put there; with her right paw cautiously curled under her, she took one sniff, backed up, and retreated to the far corner to sulk." Many other interesting and ingenious attempts to prepare the snail for the table are made, some involving "a pound of butter and half the spice cupboard. Almost anything", continues our author, "would be acceptable with its own flavor so effectively disguised." The reviewer must leave it to the reader to decide for himself whether achatina can be controlled by the human appetite, like cows.

It seems clear from reading this entertaining book that Achatina, though a considerable pest, is not by miles so great a danger to man as say schistosomiasis, malaria, or the atom bomb. But if one is directly afflicted by an invasion, this fact is of small comfort. Let Dr. Mead speak again: "As a nuisance factor the giant African snail at the height of its invasion can be listed among the worst that plague man . . . The snails multiply in such unbelievable numbers that they crawl all over and into everything, they crush or slip out from under foot almost wherever one steps, they cover things with their excreta and sticky slime trails, and they die in great quantity for various reasons and create rank odors." And there are more serious hazards: "The highways and other thoroughfares may be lined for miles with living and dead snails. Individuals attempting to cross to the other side may be crushed into a slimy mess, and as such they provide one of the choicest food items for those that survive . . In this manner a genuine road hazard may be formed, especially on the curves and grades." With his typical instinct for the best words to make his point, Dr. Mead quotes verbatim from a Dutch

writer: "Toen de Amerikaanse troepen er in 1945 landden, waren de slakken er so overvloedig, dat de jeeps er slipten." The reviewer finds these words more potent than any English translation. In short, such a situation forms a "stinking nightmare", as a Ceylonese writer put it.

The notes I made while reading this most excellent work would fill many more pages of such delightful quotes. But where do I have space to mention, for instance, the role of parasites in keeping Achatina populations down, their use in medicine, the weird, unlooked for after effects when unconsidered biological controls are introduced -- a regular Alice in Wonderland effect this! -- and many, many other topics? There is, gentle reader, no room for all this in our modest publication. But the hope is that enough appetite (literary, of course!) has been aroused in you to cause you to get this book for yourself and thus procure a deeper appreciation of the many facets of the study of our choice and to have a darn good time procuring it.

One last word. It is a queer review that has as many words quoted from the book reviewed as are original with the reviewer. Let this then be a slight indication of Dr. Mead's literary skill.

. . M. K. Jacobson

PUBLICATIONS:

MARINE MOLLUSCAN GENERA OF WESTERN NORTH AMERICA

By A. Myra Keen. A revised edition of Myra Keen's illustrated keys to genera of West Coast shells. 126 pages, hard cover, $4.50. Stanford University Press, Stanford, California.

WEST AMERICAN MOLLUSKS OF THE GENUS CONUS

By G. D. Hanna. A revision of Hanna and Strong's paper on Panamic Province Conus. 103 pages, 10 color plates, paperback, $3.50. California Academy of Science, Golden Gate Park, San Francisco, California. The publisher has offered a 20% discount on group orders, with postage prepaid if remittance is included with the order. If you wish to take advantage of this offer, your remittance of $2.80 to our Corresponding Secretary, Mrs. Grace McDougall, 16 Baxter Avenue, New Hyde Park, New York, on or before our next meeting date, April 7th, will insure your being included in the order now being made up.

MARINE MOLLUSKS OF VICTORIA

By J. Hope Macpherson and C. J. Gabriel. This hard-cover volume contains 418 pages plus bibliography, glossary and index. There are 486 figured line drawings. Melbourne University Press, 1962, in association with the National Museum of Victoria (Australia). American representative: Cambridge University Press, 32 East 57th Street, New York 22, New York, whom we suggest you contact. The price of the volume is $12.50.

SOME NEW YORK SEA SHELLS

An article by Percy Morris in the February-March issue of THE CONSERVATIONIST, the State of New York Conservation Department publication. The center spread figures 48 species of local marine shells in color. THE CONSERVATIONIST, Room 335, State Campus, Albany, N. Y. 50¢ per copy.

THE SHELLS OF LAKE COATEPEQUE, EL SALVADOR

by M. K. Jacobson

Lake Coatepeque, like many lakes of Central America, occupies an old volcanic crater, as does our own Crater Lake in Oregon. This does not mean necessarily that the volcano is completely dead. A regular outflow of sulphur, small but persistent, gives testimony to still active volcanic forces locked in far below the bed of the lake. This sulphur outflow, as we shall show presently, has a great effect upon the shells in the lake.

In several places the shores of the lake have large windrows of shells belonging to three species: an Amnicola, a Gyraulus, and a queerly dwarfed Physa. Martens in his authoritative "Biologia Centrali Americana" makes mention only of the Amnicola, which he unnecessarily, it seems to me, divides into three species. Although very variable in shape and sculpture, the shells, like our Pyrgulus from Pyramid Lake in Nevada, all obviously belong to one species. The Gyraulus, much resembling our own G. parvus, is a small form of a widely spread, much larger planorbid which we collected in Atecozol. The queerest form, however, is a very much dwarfed Physa, not much larger than the Amnicola of the lake.

Now Physa is usually a fair sized shell, and the common form in Central America is a rather large (3/4") species which my intermittent collectors called "un grandote" -- a really big fellow. Why then, after hours of searching and carefully examining huge handfuls of shell drift, did I find no sign, not even a fragment, of a normal sized Physa? Of course, it is easier to be right when one says that such and such a shell does inhabit a certain locality. The opposite statement is always weakened by such thoughts as: Maybe I didn't look hard enough; or maybe I didn't look everywhere; or maybe I came at the wrong season of the year. However, intensive questioning of many fishermen and natives of the area leads me to believe that the Physa is actually never found in any size larger than the dwarf form.

The reason for this dwarfing is connected, in my mind, with another phenomenon: I did not find a single live shell among the many hundreds I examined and the many thousands I saw. Yet this is not a fossil fauna like some of the disappearing lake dwellers of our Great Basin lakes. This fact was further substantiated in a long conversation I had with a vacationing engineer who was staying at the Hotel del Lago with his family. This gentleman makes regular visits to the lake, which is only some 35 to 40 miles from his home in the capital city of San Salvador. He informed me that live snails are common on submerged objects such as sunken wood, lacustrine grasses, and stones, but only during the rainy season. Apparently the large amount of fresh water deposited in the lake dilutes the sulphur content (issuing from subterranean wells) sufficiently to enable the snails to resume their active life. In the dry season, evaporation of surface waters concentrates the sulphur to such a degree that life is impossible for them, at least along the shores.

The preliminary observations in this paper leave a number of unanswered questions:

How do some snails manage to survive in the sulphur-dense waters of the dry season? Or do any survive at all? If they do, where do they hide to avoid the sulphur? Or do all the snails perish and are the species kept alive in the form of eggs which hatch when the water conditions become favorable?

In the light of the few observations I was able to make, the dwarf size of the Physa seems to argue only for the last point, namely, that the snails live during the brief wet season, lay eggs before the season ends and then perish. The eggs hatch about four months later when the rains begin. The apparent dwarfing of the Gyraulus -- the other fresh water pulmonate -- may also be due to this phenomenon.

It might be added that Lake Coatepeque is interesting also in the fact that it is the only large lake in El Salvador that supports any kind of snail fauna. Beautiful Lake Ilopango, near the capital city, seems to have no snails at all. Many smaller lakes in this largely volcanic country are likewise free of all molluscan life.

NEWS OF FLORIDA LIGUUS

November 11, 1962: Last year we went to an area in the Glades that is supposed to be the home of Liguus of the variety elegans, but on the four hammocks we visited they were badly mixed up. However, we found several we considered elegans -- or at least they were mostly so. They were small in size, due perhaps to the lack of food, as they were very numerous.

I am convinced that the disappearance of Liguus is due to natural causes, fire and hurricane clearing of hammocks more so than the collectors. We were on hammocks that we had visited years before and found more than we did originally.

Again, to cite another area -- Lower Matecumbe Key, that formerly housed about five kinds, is practically destitute of Liguus. We figure they were blown from the trees by the hurricane and then drowned in salt water. Went over the area pretty closely and found but a few dead shells of delicatus.

February 7, 1963: Shelling for marine shells has been poor this year. It seems that when a low tide is present that the winds are high, and when the winds are low that the tide is high or that the low tide occurs during the night. Have collected the general run of shells, but nothing that we did not have.

Liguus hunting is different. Made five trips to the Glades. Walked in from the car twice, one trip was by air boat and two by swamp buggy. We also made a trip to Little Pine and one to Middle Torch.

On Little Pine, which formerly contained two pure races, graphicus and dryas are being mixed up due to some smart alec releasing some other strains. They are interbreeding and the mixture is awful.

While we got some good shells in the Glades, this is happening there, too. We went on a trip last Sunday and in one hammock visited we found nothing but hybrids. Some years ago on this hammock we found a beautiful white Liguus with green lines clear up the shell. This time we found only white shells with the last period containing the green lines.

Made a trip north of the Tamiami Trail, where we visited an Indian camp. No Indians were there but the chickees were in good repair and banana trees and sugar cane were ready for harvesting. Going about five miles further we came to a hammock where we found some good shells with the same markings, a true named species I believe, but do not know the name.

. . . . LEON PEQUIGNOT

(Foreword: Sorrento bay beach is on a strip of land separating Port Phillip Bay from Bass Strait. At our meeting February 10th Stanley Sokoloff showed us a slide of a nearby, similar rocky area. Caulfield, a suburb of Melbourne, Australia, is the home of our corresponding member Mrs. D. C. Wicks, who kindly sent us the following article.)

OBSERVATIONS OF NESTING CABESTANA WATERHOUSEI

by Vilma Wicks

On Friday, 9th of December, 1960, I gathered a small triton, Cabestana waterhousei, with egg nest at Sorrento bay beach.

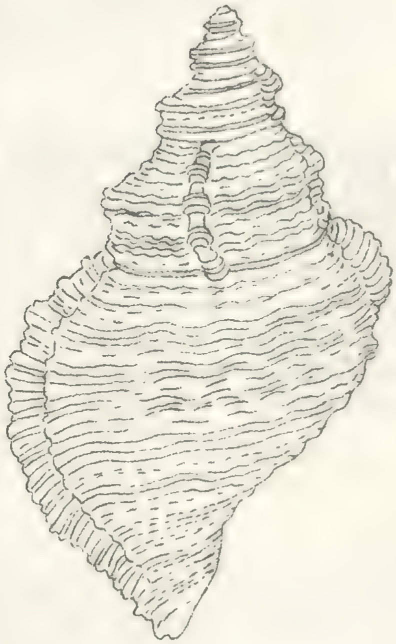
The shell was sitting on the nest which was completely built into a perfect round hole in a rock; quite near the shore among a number of rocks and rock formation. It was a low tide -- the shell was about one foot below water. On removing the shell, I noticed a white ring where the shell had been. Being puzzled about this, I investigated and realised it was the top of the egg nest.

I gathered it as carefully as possible, but in removing it from its rock I damaged the nest slightly underneath.

I brought shell and nest home to Caulfield in a bucket of sea water and an odd small rock or two. Shell and nest were of course separated, but on Wednesday, 14th of December, 5 days later, shell returned to nest and laid more eggs, securing top with a thin membrane. Shell did not leave nest until January 5th, 1961 (4 weeks after collecting).

The egg capsules were observed to have become swollen and were full of white dots. Within 24 hours of shell leaving nest the eggs began to deteriorate and nothing came of it. I returned the shell to its original location at Sorrento alive and well.

During the 4 weeks I supplied fresh sea water each day, sometimes twice daily. At times shell was noticed to release its hold on the nest. Presumably to bathe eggs or maybe to secure some nourishment for herself.



CABESTANA WATERHOUSEI

* * *

On Friday, 22nd December, 1961, I gathered at the same location and about the same spot as last year, a Cabestana waterhousei and egg nest which I think could be the same one which I gathered last year and returned. I looked around for good clear water in a pool (tide was extremely low and cut) and finding some I filled a glass jar and placed shell and egg nest inside. A minute later I noticed that the water was cloudy, and being puzzled about this and noticing that the water remained cloudy, I removed the shell and put it into another container with sea water. I took the cloudy water home in a flat large bowl. Cloudiness seemed to be in ani-

mation to a small degree at times.

As the days went by this mass took on a mauve color and at times would settle in patches, later to become active. In fact, with the aid of a magnifying glass specks could be observed darting about with much continuance of activity. Occasionally an odd one would reach the surface and lie suspended there for minutes. Within three days individual specks could be identified in their movements without the aid of a glass. Four or five days later this mass died and all sank to the bottom of the dish, just a mauve patch. I had a sample inspected under a microscope by Mrs. Freame of Seaholme, Victoria, and she identified individuals as newly hatched C. waterhousei in the swimming, or veliger, stage.

It is I think an amazing fact that I gathered the shell and nest when the young were ready to hatch, and on placing some in a jar of water conveniently were able to fulfill the cycle to that point, but unfortunately perished after five days.

It was an education for me, because this is an entirely different method of babyhood than, for instance, the Pleuroploca australasia, this one being completely ready for its life's journey straight from the egg capsule without going through the stage of free swimming.

(Note to above: Mrs. Wicks sent a picture of Cabestana waterhousei on its egg nest. The aperture of the shell was hidden against the yellowish mass of the nest, and just an edge of the membranous cover was visible. The nest was about the size of the body whorl of the shell and in shape was a little more than half a sphere. The fabric of the nest could not be determined from the picture. Two oval white egg capsules were protruding from the damaged bottom of the nest and four more capsules were visible at the nest's upper edge. We estimate the egg capsules to be possibly 3/16 of an inch in length and 1/16 of an inch in diameter.--Ed.)

MORRIS KUDATSKY

We have no words to express our sadness as we report the death on February 23rd of our member Morris Kudatsky. It was shockingly sudden, with no previous indication of illness. Our heartfelt sympathy is with his wife Bella, and their two daughters.

BROKEN LEG = BROKEN RECORD: Fred Tobleman's attendance record has been 99 out of 100 -- but now he is hampered by a cast on a broken leg. We hope he will be able to be back with us soon.

WE WELCOME THESE NEW MEMBERS:

Mrs. Pauline Dubin, 1202 Spofford Ave., Bronx 59, New York
Miss Rosina L. Ripton, 32 Thompson St., New York 13, N. Y.
Mrs. Diane deVry Roth, 240 East 15th St., New York 3, N. Y.

NOTE THIS CHANGE IN ADDRESS:

Mr. and Mrs. William Merritt, Box 63, Millington, Maryland.

NEW YORK SHELL CLUB NOTES No. 91 April 1963

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The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, MAY 12th, 1963, at 2:00 P. M.

PROGRAM: COLLECTING MIOCENE FOSSILS IN VIRGINIA *
by Mr. & Mrs. George Stevens of Virginia Beach, Va.
A TRIP TO EL SALVADOR, by M. K. Jacobson (Color slides)
MARINE FAUNA OF THE FALKLAND ISLANDS
by Ian Strange, of Port Stanley, Falkland Islands.

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y promptly of any change in address.

COLOR FILM OF THE BELVEDERE EXPEDITION SHOWN TO THE NEW YORK SHELL CLUB

On April 7th we had the pleasure of seeing this documentary film of an expedition to the Vermilion Sea area of the Gulf of California to collect zoological specimens. Dr. W. K. Emerson, Chairman of the Department of Living Invertebrates of the American Museum of Natural History, was a member of this expedition, which was sponsored by the San Diego Museum of Natural History. The nonexistence of motor roads on the peninsula of Baja California made it necessary to reach the selected collecting areas by a chartered vessel which was converted into a base camp.

Baja California is a fantastic, bare, rugged land, yet beautiful in its own way. The annual rainfall over the peninsula is practically nil and this is evidenced by the naked, cruel looking, jagged stone hills and mountains rising out of the dark blue waters of the Gulf and outlined against an equally intense blue sky. Dr. Emerson's collecting was restricted to the shore lines for marine and land mollusks as well as for fossils. Other scientists of the expedition collected intensively for botanical specimens, reptiles, insects, and other arthropods. The natural history details in color of this film, ranging from spouting whales to rattlesnakes and unbelievably gigantic cacti in flower, gave us a memorable visual experience. With Dr. Emerson's narration, we gained a comprehensive idea of the workings of the expedition. A. D'A.

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* Mr. and Mrs. Stevens will have with them a display of fossils and some duplicates (Ecphora, Murex, Sconsia and Volutes) for exchange. They are interested in the Recent species Cymatium, Mitra, Murex and Voluta.

PUBLICATIONS

REVIEW:

SOME NEW YORK SEA SHELLS

by Percy A. Morris

"The Conservationist", issue of Feb.-Mar. 1963, pp. 20-27 and 37.

This article by the curator of mollusks of the Peabody Museum in Yale University is a welcome addition to the small number of popular works that deal with our local shell fauna. The beautifully colored central page spread is worthy of framing and the article itself should be in the library of everyone interested in shells. The illustrations are faithful, easily recognizable (with one exception) and serve to make identification (or determination as it is called by the specialists) easy. The descriptions taken from the author's well-known handbook * are simply worded, accurate, informative and interesting. Though scientific language is avoided, there is no "writing down" here; what we have is clear, vigorous prose. The author wisely included the scientific name of each species as well as the author of each term, a practice which makes reference possible with other works, and a practice that is too often avoided by many writers of popular articles. Thus the present article is of interest to the general nature student as well as to the persons specially interested in mollusks. Finally it should be noted that the selection of the shells described -- a difficult task even in the case of our very depauperate shell fauna -- is wisely done. It shows that the author has more than a mere book knowledge of the local shells.

Among the very few errors noted are the following: The picture of the Truncated Borer (*Barnea truncata*) is not correct. It seems to be a pale version of the False Angel Wing (*Petricola pholadiformis*) whereas the true *Barnea* is quite a different shell. In the text (page 26) the Glassy Clam is incorrectly called *Pandora gouldiana*. Actually it should be called *Lyonsia hyalina*, as it is indeed called in the color plate. *Tagelus plebeius*, both in the text and on the plate, is called incorrectly *Tagelus plebius*. And *Aequipecten* on the color plate is mangled to *Aeiguipecten*.

mkj

*"Field Guide to Shells of the Atlantic and Gulf Coasts" by Percy A. Morris. Houghton Mifflin Co., Boston, 1951.

"The Conservationist", Room 335, State Campus, Albany, New York. 50¢.

REVIEW:

CENOZOIC MURICIDAE OF THE WESTERN ATLANTIC REGION

Part 1 - *Murex sensu stricto*.

by Emily H. Vokes - Tulane University

Published in "Tulane Studies in Geology", pp. 95-114 plus 4 photographic plates in black and white. Bound together with "Studies on Tertiary and Recent Giant *Limidae*" by Harold E. Vokes. $2.25 from Department of Geology, Tulane University, New Orleans 18, Louisiana.

This very fine paper deals with both Recent and fossil muricids "of the subgenus *Murex sensu stricto* (type *Murex tribulus* Linné)". In this study, the Western Atlantic species are divided into two groups. The first of these groups, which has an apparent "indo-Pacific" ancestry, is characterized by having a straight siphonal canal, showing little or no trace of former canals, and usually, as in the type *M. tribulus*, bears a series of

varical spines down the length of the canal. The second group, of apparent Caribbean origin, is termed the "Western Atlantic" subgroup, differing in that the siphonal canal is deflected to the left and remnants of previous canals are found at the end of the other two varices. In addition, there are no spines on the siphonal canals of this subgroup.

This reviewer, for one, has been perplexed by the lumping of this "Western Atlantic" subgroup with *Murex* (*s. s.*). *Murex tribulus* is the type of the group of Indo-Pacific "Venus Comb" muricids which may be distinguished by their long to very long round spines on all three varices, including spines on the long straight siphonal canal. Although of a very different form, the "Western Atlantic" subgroup, including species like *M. cailetti* and *motacillus*, have not been subgenerically separated from *Murex s. s.* in any modern study, including the present one.

Some name changes in this well documented work are (for Recent species):

Murex messorius Sowerby	for	*M. woodringi* Clench and Farfante
Murex rubidus F. C. Baker	for	*M. recurvirostris rubidus* F. C. Baker
Murex messorius sallasi Rehder and Abbott	for	*M. recurvirostris sallasi* Rehder & Abbott
Murex consuela Verrill	for	*M. pulcher* A. Adams 1853 (not *M. pulcher* Defrance 1827; nor *M. pulcher* J. Sowerby 1813.)

Also, the taxon, *M. recurvirostris* Broderip, is shown to be restricted to the Eastern Pacific.

. . . Anthony D'Attilio

THE COWRY

Vol. 1, No. 5 of this interesting English publication devoted entirely to *Cypraea* is dated March 1st, 1963. A supply has been received by N.Y.S.C. President William E. Old, Jr., and members may contact him for a copy (@ $1 each) while they last. For those who would like an annual subscription, receiving their copies by mail, (2 numbers, $1.70), we suggest you contact the U. S. representative: C. M. Sgt. E. L. Fobes, 12320 South 27th Avenue, Omaha 47, Nebraska.

PROVISIONAL SPECIES LIST OF LIVING VOLUTIDAE (GASTROPODA)

by Clifton S. Weaver

Mr. Weaver lists 193 valid species, 12 doubtful species and 82 synonyms -- "the purpose of which is to provide a handy reference to genus, author and date for any given species of living *Volutidae*." Distributed free to subscribers of the Hawaiian Shell News, extra copies $1.00 plus postage from The Hawaiian Malacological Society, 2777 Kalakaua Ave., Honolulu 15, Hawaii.

JOURNAL OF THE MALACOLOGICAL SOCIETY OF AUSTRALIA

No. 6 of this annual publication, dated 31st December, 1962, contains 60 pages, 11 line figures, 9 photographic plates. The six articles concern *Papuininae*, *Tylospira*, The development of *Midorigai australis*, Two new *Conus* from Queensland, The fossil *Miltha*, and the Spawn and Early Life of two species of *Conuber*. Obtainable from the Secretary, 351 Glenferrie Rd., Malvern, Victoria, Australia. Price: $1.80 U. S.

TWO UNCOMMON MARINE GASTROPODS IN OUR AREA

by Harold S. Feinberg

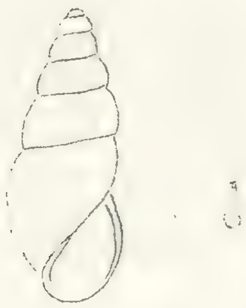
A single live Pyramidella fusca C. B. Adams was collected by the writer at Sandy Hook, New Jersey, on June 2nd, 1962 (see NYSC NOTES #83). The snail was living with Hydrobia minuta in the mud of a back bay of Sandy Hook Bay.

Although about the same size as Hydrobia minuta, Pyramidella fusca differs from the former by its brown color, slightly different shape and the presence of a columellar plication.

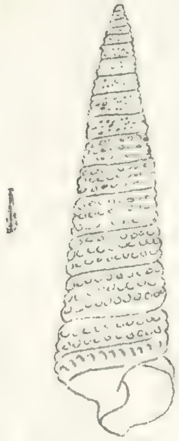
On Saturday, July 14th, 1962, New York Shell Club members had one of their informal summer field trips to Sherwood Island State Park, Fairfield Co., Connecticut. Most of us went along to enjoy the warm sun, with the attitude that this was not a productive shelling spot. Our sun bathing was interrupted when Mrs. Dorothy Germer showed us several Seila adamsi. Beach chairs and blankets were quickly deserted and the hunt was on. At the tide marks several interesting species of small (but not alive) shells were found. Seila adamsi proved to be very common that day, and with them were lesser numbers of the following species: Retusa canaliculata, Mangelia plicosa, Turbonilla sp.?, Anachis avara, Littorina irrorata, and three broken shells of Cerithiopsis subulata Montagu. This last named shell is the one that excited this collector the most.

The largest of the three specimens of Cerithiopsis subulata measures 5.6 mm. by 2.8 mm. in diameter. This fragment represents the last 4½ whorls. This shell, although badly worn, clearly shows the three rows of distinct, raised, roundish beads, with axial riblets connecting them.

Both P. fusca and C. subulata are listed in most popular books as species found in the general range that includes this area. However, Jacobson and Emerson have not included them in their "Shells of the New York City Area".



Pyramidella fusca C. B. Adams



Cerithiopsis subulata Montagu

WE WELCOME THESE NEW MEMBERS:

Mr. Stephen Borger
South Country Road
R. F. D. #1
Brookhaven, New York

Mrs. H. Denny Pierce
56B Franklin Street
Tenafly, New Jersey

Mrs. Michael Pucci
18 Daly Cross Road
Mt. Kisco, New York

BEACHCOMBING ON SANIBEL ISLAND

by Dorma P. Coley

Dec. 9, 1962: The 11:00 A. M. ferry carried Gene and me from Punta Rassa to Sanibel Island. We left the main road, that extends the entire length of both Sanibel and Captiva, about half way up Sanibel and took the beach road. The minute we got onto the sand I knew it was going to be good shelling -- When seaweed and pen shells (*Atrina rigida*) lay in ridges it is almost a sure sign that "shells are in".

We secured a very nice motel room with kitchenette, right on the beach, changed quickly and headed for the tide line. As far as we could see up and down the beach live *Pecten gibbus* by the thousands were strewn on the wet sands. Some were flapping their valves in their efforts to roll back into the water while others were lying quietly, partially open, their blue-green eyes staring all around. Still others lay tightly closed. There were also many other species about: *Melongena corona*, *Busycon contrarium*, *Strombus alatus*, *Fasciolaria hunteria* and *tulipa*, *Dinocardium robustum* (mostly small ones), *Noetia ponderosa*, *Codakia orbicularis*, *Murex pomum* and *florifer*, etc. Most of these were beach specimens, but so recently deceased that they were still bright and quite fine. We also picked up several live *Echinochama cornuta* (Florida spiny jewel box) and *Laevicardium laevigatum* (yellow egg cockles). We were particularly pleased with these for, while they are not rare, in all the years we have been shelling the Florida beaches, we had never found many live ones -- particularly of the yellow egg cockles which are rather fragile, pale yellow, sometimes pink tinged, porcelaneous shells with delicate hinges.

Within half an hour our buckets (and pockets) were overflowing and we returned to the motel where I spent the rest of the day washing and cleaning our gleanings. It was interesting to glance up frequently and watch the gulls feeding on the pectens. Up and down the beach they scampered, fairly guzzling the mollusks as they lay gaping on the sand.

December 10th: We were on the beach as soon as it was light enough to see. The sunrise was so beautiful, painting the sky and clouds with rainbow hues.... The beach was as liberally covered with shells as it had been the afternoon before. By the time we had walked half a mile or so our pails were overflowing, but we had found nothing rare or unusual. However, I did pick up the best *junonia* I have found in over 25 years of shelling on Sanibel. Even this, though, was merely a broken, beachworn specimen. We were later told that 21 perfect ones had been found the week before! Perhaps--like Julia Ellen Rogers--I am not destined to ever find a perfect *Scaphella junonia*. But Gene has found two very fine ones in past years.

December 11th: Again on the beach before dawn. There were fewer live *P. gibbus* than there had been the two previous days, but still thousands of beautiful, many-hued, bright ones. On many trips to Sanibel we had not found a complete pecten, live or dead, but this time I could pick up 25 to 50 really choice ones within reach of where I stood.

While there were fewer bivalves on the beach this particular morning, there were more gastropods--but all were of the species already mentioned. Gene's find of the morning was an exceptionally dark and fine *Conus spurius* It was empty, but the cones are his favorite genus and as we had found very few he was very pleased with it. We read and are told that certain species "come in" at certain seasons. Perhaps this is a scientific

fact, but on Sanibel in other Decembers we have found quite a few cones, while this year we didn't find over a dozen Conus spurius (all dead), and nary a Conus mus or floridanus.

It is my opinion that Sanibel--like so many other prolific beaches--has been "over-shelled", and that the red tides have depleted the beds offshore... The permanent residents are not happy about the bridge which is being built between Punta Rassa and Sanibel. While it will save them time and the ferry fare, they know their island will not be what it once was--reputedly one of the best shelling beaches in the world.

December 12th: We drove several miles up the beach and for a while had to shell within the beams of the car headlights. By daylight we realized we had never seen so many live shells on the beach. It was very low tide and just at the water's edge was a little drop-off, perhaps three to four inches deep. Embedded in this were thousands of shells--many of them alive. It was most interesting to watch the tulips, Melongena, Murex, pectens, clams, cockles, etc., try to dig themselves deeper into the sand or go rolling back into deeper water with the next wave.

I picked up one of the largest Echinochama cornuta I have ever found. This is commonly called the Florida spiny jewel box, but to me it resembles a ball of white nougat candy covered with coconut. This particular specimen was further decorated with perhaps fifty or more ¼ to ½ inch mussels which were adhering to the Echinochama with their fine brown byssuses until it was practically covered. About half a mile down the beach I reached into the pail to show it to another sheller and really got a "start"! An octopus with about a six inch span was trying to slither up the side of the pail. He must have been hiding in an "empty" shell I had picked up.

Until about 11:00 this morning the weather had been sunny and warm with very little wind. Then the dark clouds started blowing down from the north. By evening there was a cold mist falling and much wind.

December 13th: When I awoke before dawn I realized it was just too cold and windy for me to venture out on the beach. Gene went out for about half an hour shortly after daylight, and on his return he reported that while the tide was so low the bar offshore was exposed in places, there were NO shells. Even the myriads of pectens had all been washed back into the Gulf during the night. Perhaps other species had dug themselves deep into the sand.

Later we were told that the temperature had dropped lower in the night than at any time since 1896. We realized that shelling was over for at least several days, so we returned to the mainland via the 11:00 ferry.

* * *

Years ago Mrs. Thomas A. Edison had for one of her civic projects the planting of Royal Palms along the streets of Ft. Myers. The Garden Clubs and other civic organizations have continued this practice and now there are rows of these palms almost all the fifteen miles from Ft. Myers to Punta Rassa, where the ferry docks. As we drove back to Ft. Myers I wanted to weep -- All the palms, crotons, bougainvillas, hibiscus, and other plants, shrubs and trees were sere and brown from the unusual cold. Many of them--and the citrus trees--are dead, but many will come back in time. There will always be warmth and sunshine for most of the year in Florida, just as there will be shells on Sanibel--when the winds and tides are right. . . .

COLLECTING AT JENNING'S POINT, SHELTER ISLAND AND NEARBY LOCALITIES

by Lawrence Potter

Having spent a week at the end of June in the summers of 1961 and 1962 at Jenning's Point, Shelter Island, I have become familiar with the local mollusca. This area is characterized by rocky shores, with sandy beaches farther back, and strong currents with deep water. There are many gigantic boulders, havens for mollusks, left by the retreat of the glaciers. All in all, this is a fairly rich area for the collector ("rich" by Long Island standards). It offers the best collecting I have yet seen on Long Island, probably comparing well with Bayville.

The most common mollusk is Crepidula fornicata Linné; indeed, the beach is covered with them, arranged in little windrows several inches deep. Also obvious are the quantities of Anomia simplex d'Orbigny, their large (up to 1½" or so) yellow upper valves sparkling in the sun. Occasionally a small submerged stone will have a solitary live Crepidula fornicata clinging to it. Up where the edge of sand and water converge, on seaweed-covered rocks, there will probably be several Littorina littorea Linné attached under the weed, calmly going about their business. In the summer of 1961, in water two to four feet deep, on the large round stones, an occasional Busycon carica Gmelin could be seen clamber by. The first summer (1961) these shells (large specimens, up to 9" or so) were not uncommon. However, last year I did not see any of them alive. I may have been there at the wrong time, but all I found were a few beach-battered specimens.

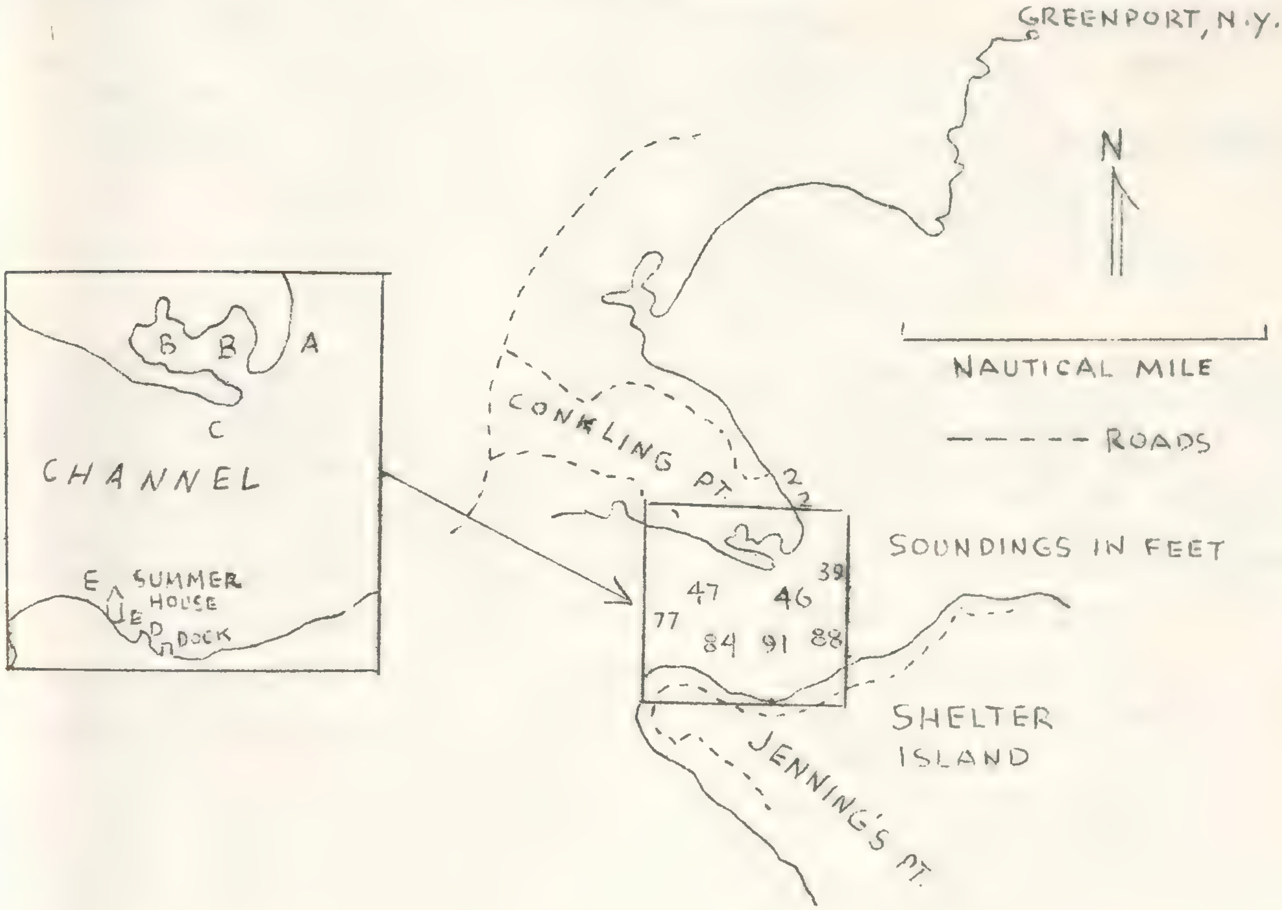
As was mentioned earlier, jingle shells are abundant, that is, the upper valves. But I have found one or two whole specimens on the beach, with the curious bottom valve. Littorina obtusata Linné is more common on the beach than Littorina littorea, it being found near the water's edge, left by the retreating tide; whereas Littorina littorea is found in (or partly in) the water, on small rocks. Urosalpinx cinerea Say is common, though not particularly so, being found by the water's edge. Aequipecten irradians Lamarck (dead valves) is rather uncommon, though appearing (dead) in abundance across the channel, an area which I will discuss later. Eupleura caudata Say also is not too common, being found with Littorina obtusata near the water. Examination of the seaweed right at the water's edge will produce a great number of minute species, notably some small snails, among them Mangelia plicosa, and very small, beautiful (mostly yellowish) Littorina obtusata. So far I have found two worn specimens of Epitonium (probably humphreysii), one for each summer. They both turned up in tidal pools. I also found in June 1961 a beautiful specimen of Pandora gouldiana Dall, dead, under one of the huge boulders, when the tide was out.

Across the channel in the area southwest of Greenport, Long Island, opposite Jenning's Point, lies Conkling Point. This is also a very productive area in the way of mollusks. (See map.) Scallops are predominant, being found dead in great numbers (mostly single valves) along the shore, with live ones in the lagoon. When I first ventured out into this shallow area I found the pectens lying quietly on the bottom (mud flats) in water six inches to a foot deep. They were apparently not aware of my presence, although I did not attempt to steal up slowly. When picked up they immediately snap shut. In deeper water (up to a foot and a half deep) there were great deep piles of dead scallops covered with marine growth, with occasional live slippers attached. Now and then in this submarine grave-

yard were live scallops, but most seemed to favor the shallower water. A few dead *Busycon carica* and *B. canaliculatum* are to be found on the beaches. Digging a few inches down in the sand on the beach on the channel side, I found several whole *Anomia simplex*, and various other species. Although time did not permit a longer investigation, I suspect that many more species will be found in both areas.

Jenning's Point is owned by a Methodist summer camp, and permission should be secured before collecting.

The extreme end of Conkling Point, where I was collecting, was up for sale last summer, and may now be in private hands.



A: Dead *Busycon carica* and *B. canaliculatum* on beach.
B: Live *Aequipecten irradians* in lagoon.
C: *Anomia simplex* in sand.
D: *Crepidula fornicata*, *Anomia simplex*, *Littorina littorea* and *L. obtusata*.
E: Large *Busycon carica* alive.

NOTE THIS CHANGE OF ADDRESS:

BROWARD SHELL CLUB, c/o Mrs. Terry Marsh, Cor. Sec'y
1140 Northeast 24th Ave., Apt. C
Pompano Beach, Florida.

FURTHER DISCUSSION OF ANNUAL FIELD TRIP AT MEETING OF MAY 12th.

NEW YORK SHELL CLUB NOTES No. 92 May 1963

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900 West 190th Street
New York 40, New York

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Historian
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Corresponding Sec'y
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Public Relations
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Treasurer
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Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JUNE 9th, 1963, at 2:00 P. M.

PROGRAM: COLLECTING IN THE VIRGIN ISLANDS AND REMINISCENCES OF A SHELL COLLECTOR by Ethelyn Woodlock
MUSEUM SHELL EXHIBITS by William E. Old, Jr.
PUERTO RICO SI, CARACOLES NO by Norman Jensen
SHELL-OF-THE-MONTH to be announced

These NOTES are distributed by mail, free of charge, to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y PROMPTLY of any change in address.

FIELD TRIP JUNE 15th TO ORIENT BEACH STATE PARK

DEPARTURE TIMES OF MANHATTAN TRANSIT COMPANY CHARTERED BUS:

New Jersey	7:30 A.M.	from in front of Gimbels, Garden State Plaza, Routes 4 and 17, Paramus.
Manhattan	8:00 A.M.	from Manhattan Consolidated Bus Terminal, 201 West 41st Street (at 7th Avenue).
Queens	8:30 A.M.	from in front of Howard Johnson's restaurant, on Queens Boulevard just a block or so west of 63rd Drive, Rego Park.

TO RESERVE YOUR PLACE ON THE BUS: Send your request for reservation with $3.00 for each passenger to our treasurer, Miss Weingartner (address above).

In Queens: Independent Subway to 63rd Drive, Rego Park. This is a LOCAL STOP (GG train) between the Roosevelt and Continental express stations. Also: Queens Boulevard bus (Green Lines), which is conveniently routed but slower, with only 3 or 4 busses each hour on weekends.

By automobile: The parkway system connects with State Route 25 out around Commack, Long Island. Follow Route 25 on out the northeastern fork of Long Island all the way to Orient Beach State Park. The turn-off to the park is a mile or two short of the ferry landing at Orient Point. Check your map and you will see that

Orient Beach State Park is a peninsula facing Gardiner's Bay and backed by Long Beach Bay.

WE SUGGEST that you bring sturdy-soled beach or wading shoes and dry socks in addition to bathing suit, sun hat, lunch and your favorite collecting paraphernalia. Sorry, but no tubes, floats, swim fins, aqualungs, etc. are permitted in the Long Island State Parks.

FACILITIES: Bathing in Gardiner's Bay (lockers 35¢ for adults, 15¢ for children), picnic and play areas, surf casting, refreshment stand (sandwiches, hot dogs, ice cream and coffee).

We are looking forward to a wonderful day -- get your reservation early!

THIRTIETH ANNUAL MEETING OF THE AMERICAN MALACOLOGICAL UNION BUFFALO, NEW YORK, JUNE 18-21, 1963

The Buffalo Museum of Science together with the Conchological Section is playing host to AMU members, their families and friends. The Museum, located on North Parade in Humboldt Park, offers to its visitors comfortable auditorium and cafeteria facilities as well as a wealth of engrossing exhibits to those desiring occasional respite from the scientific sessions. Beautiful Humboldt Park affords benches and shade and a wading pool for the very young.

Headquarters hotel will be the Statler-Hilton, located on Niagara Square in downtown Buffalo. A special bus will make direct trips between museum and hotel as well as providing transportation for the Friday sightseeing tour.

Condensed schedule:

TUESDAY: Registration (fee, $2.00) 9:00 A.M. until noon in the Mezzanine Lounge, Statler Hilton; continued in the afternoon and all day Wednesday in the lobby, Buffalo Museum of Science. 1:00 P.M., welcoming address followed by papers, auditorium, Buffalo Museum of Science. 7:30 P. M., informal program, Georgian Room, Statler-Hilton. (This will feature the showing of slides by members. Bring your pictures of former meetings, of unusual shells, etc. A question and answer period will be held if time permits.)

WEDNESDAY: 9:00 A.M. - 5:00 P.M., papers, Museum auditorium. Noon luncheon (by ticket) in the Museum's Hall of Plant Life.

THURSDAY: 9:00 A.M. - 4:00 P.M., papers, Georgian Room, Statler-Hilton. Noon luncheon (by ticket) in the Maple Leaf Room. 5:30 P.M., reception by the Buffalo Society of Natural Sciences and the Conchological Section followed by the annual dinner (by ticket) in the Central Hall, Buffalo Museum of Science.

FRIDAY: 9:00 A.M. - 4:00 P.M., sightseeing tour of Niagara Falls (Canadian and American) and the Niagara River area. Noon luncheon in the new Seagram's Tower high above the Canadian Falls. (Tickets for the tour including lunch to be purchased when registering. Persons born outside the United States are reminded to bring credentials necessary for border crossing and re-entry.)

(FRIDAY ALTERNATE) Special field trips may be arranged with the local committee.

Please notify AMU Secretary, Route 2, Box 318, Marinette, Wis. if you plan to attend the meeting and whether or not you will attend the dinner and/or the sightseeing tour.

PUBLICATIONS:

SHELLS
By Roderick Cameron

This volume is one of the "Pleasures and Treasures" series published by Putnam's Sons. SHELLS is a nontechnical account of this subject with much of varied interest for the general public as well as for shell collectors. Chapter titles include: "Shells in Art", "The Early Collectors and Their Cabinets", "Handbooks and Nomenclature" and "The Great Barrier Reef". It is profusely illustrated in color and in black and white. In addition to many historically interesting illustrations showing the use of shells in art, there are reproductions of colored plates from 17th and 18th century books on shells and portraits of historically famous collectors and scientists. The account of the Shell Grottos of 18th century England I found especially intriguing.

Numerous shells are illustrated, some of extreme rarity, and are mostly correctly named. One error (obvious to Voluta collectors) is the misnamed Voluta delessertiana for the very rare Lyria lyraeformis. There is a photograph of the striking Conus clytospira Melvill and Standen (=milneedwardsii of Habe's Vol. 2 of the "Shells of Japan") with, however, no indication of actual size. Of especial interest is an illustration of the rarely shown, splendid Murex lobeckii Kobelt, a species of Pterynotus from the China Sea.

(128 pages, 1961, G. P. Putnam's Sons, New York 16, N. Y. About $4.00)

. . . A. D'Attilio

DANGEROUS MARINE ANIMALS
by Bruce W. Halstead, MD.

Published in 1959 by Cornell Maritime Press, Cambridge, Maryland. Hard cover, 146 pages, profusely illustrated. Price $4.00. "A Handbook for Skindivers, Swimmers, Physicians, First Aid Workers, Shell Collectors and Everyone Who Works or Plays in or on the Seven Seas." Lists certain fish, jellyfish, mollusks, corals, urchins, etc. -- how they are dangerous and what is known of treatment for the victim. Most of the dangerous creatures are found in the Pacific, but enough of them inhabit our Atlantic waters to give us pause. The preface mentions another work "to be published in the near future" . . "Poisonous and Venomous Marine Animals of the World" (we have not seen it), which we believe may be an enlargement of the subjects covered in this book. Meanwhile, we shall watch where we wade and not be quite so unconcerned about the nearness of some of the above mentioned marine fauna.

dr

NOVITATES,
A Publication of the American Museum of Natural History

#2136, May 7th, 1963: "Results of the Puritan-American Museum of Natural History Expedition to Western Mexico #17. The Recent Mollusks: Gastropoda, Cypraeacea." By W. K. Emerson and W. E. Old, Jr.

#2137, May 7th, 1963: "A New Subgenus and Species of Cymatium." By W. K. Emerson and W. E. Old, Jr.

The price of each number of NOVITATES is $.40. Obtainable from the library of the American Museum of Natural History, Central Park West at 79th Street, New York 24, New York.

ANGEL WINGS OR BUST

by Dorothy Germer

After hearing that both Miss Weingartner and the Taxsons had found Angel Wings in New Jersey, a small group of NYSC members decided to make the trip to South Amboy to look for them. We had always found broken shells of *Barnea costata* on our Jersey beaches, but this was the first time we heard just where they could be found. The date was set for March 24th, when there was to be a minus tide.

The morning dawned clear and warm; we packed our family into the car for the trip. We took the Garden State Parkway to Route 35, then followed the signs to South Amboy. Our meeting spot was the parking area next to the South Amboy Boat Club, just south of the New Jersey Power and Light Generating Plant. Here at low tide is a wide stretch of mud flats, looking across the bay to Staten Island.

The area we were going to cover had many pieces of broken *Barnea costata*, commonly known as Angel Wings, up at the high tide line. We also found many pairs of *Macoma balthica*, and other shells we'll put in our check list.

Exploring the flats, two of our lady members sank into mud up to their knees and had to be helped out by our gallant gentlemen members. It really was funny -- we all laughed at the first victim, then the tables turned and I was the second one to sink in. Whoever said mud baths are healthy should try Amboy at low tide!

We covered a large area but only one natural pair of dead *Barnea costata* were found -- by a rock hound who was along for the ride. The specimen measured 5½"; with its tip intact it would have been 6". There were many "Oh here's one, let's dig!" only to have it turn out to be the little unwanted member of the bivalve family, *Mya arenaria*.

Those hard to find bivalves are there at South Amboy, too, and it would be nice if we could plan a return trip when it warms up a little more and wading can be done in sneakers instead of heavy boots. Just think of the thrill of finding a live pair of *Barnea costata* in Jersey instead of on Sanibel! How about it?

Here is a list of the shells we found, most of them in the beach drift at the high tide line:

Busycon canaliculatum, dead beach
Busycon carica " "
Lunatia heros " "
Polinices duplicatus " "
Urosalpinx cinerea " "
Nassarius obsoletus, abundant live
Mya arenaria " "
Mercenaria mercenaria, live
Macoma balthica, abundant live and dead beach
Aequipecten irradians, dead valves
Mulinia lateralis, live
Barnea costata, one dead pair, by Charles Germer
Crassostrea virginica, live pairs and many dead valves
Tagelus plebeius, dead valves
Ensis directus " "
Brachidontes demissus, live abundant
Mytilus edulis, dead beach
Anomia simplex " "

A CHANGE IN NAME -- THE SHELL'S THE SAME

Long known as *Barnea costata*, our Angel Wing should properly be called *Cyrtopleura costata* (JOHNSONIA No. 33, Ruth D. Turner). One point in simple explanation: Those of us who have collected the live Angel Wing know the "saddle", the transverse calcareous mesoplax. This "saddle" is present

in most of the *Pholadidae*, but NOT in *Barnea* where the Angel Wing was formerly placed. Mrs. Germer was aware of the change in name, but felt that "*Barnea costata*" would be instantly recognized by all readers.

The range of *Cyrtopleura costata* (=*Barnea costata*) Linné is given as from Fall River, Mass., to Rio de Janeiro, Brazil. The only local record we know of is that of a live specimen found in February, 1950, in a bay near Orient, Long Island. (Hey! That's where we're going June 15th!)

dr

NATURAL HISTORY OF THE FALKLAND ISLANDS

A Presentation by Mr. Ian J. Strange

Mr. Strange began his presentation May 12th by asking how many of the members present knew precisely where the Falklands were located. On a sketch map he located the Falklands in the Subantarctic off Argentina. Slides were shown of Stanley, the principal town, and of the craggy coastlines and rugged terrain of the islands. (A 1000' butte reminded me of one that used to appear in Saturday afternoon Westerns.) The picture of the shelling area showed a short stretch of beach by a rocky point. As the water temperature attains a high of only 47° F, shelling there has its limitations.

Among the birds shown, the night heron, woodcock and oystercatcher (a real shell collector) were almost identical with our own local ones. More exotic to us were the "Johnny Rook" (a preying bird), the king shag (a black and white cormorant with pink bill and feet), and the black-browed albatross (which seemed to wear a perpetual frown). The Kelp goose male is pure white with pink bill and feet, while the female is barred with brown. The males of the beautiful Upland goose bear white and silver plumage, while the females are chocolate and gray. They feed on grass, much to the disgust of sheepmen. Most interesting were the species of penguins, which included the jackass, gentoo and rockhopper. Nesting Adèlie penguins -- photographed in the South Orkney Islands -- were also shown.

Mammals shown included the Southern Sea Elephant, South American Sealion and South American Fur Seal.

A case of Falkland shells, selected from those Mr. Strange had sent to the museum, were displayed and described by Bill Old.

Mr. Strange is now in England on a six months vacation.

. . . . W. E. OLD

COLLECTING MIOCENE FOSSILS IN VIRGINIA

A Presentation by Wylda and George Stephens

On May 12th Mr. and Mrs. George Stephens of Virginia Beach, Virginia, gave a resumé of their experiences in collecting, cleaning and identifying Miocene fossil shells from the Yorktown Formation of Virginia. Transferred two years ago to the Naval Air Station at Oceana, Va., the Stephens became interested in fossil shells only a year ago. In their displays of fossils were superb specimens of *Aurinia mutabilis*, *Scaphella solitaria*, *Conus a. adversarius*, and many others. The rare *Sconsia hodgei* and *Ptychosalpinx* were represented. There was a magnificent growth series of *Ecphora quadricostata* from ½" to over 4" in length. And there were more specimens of *Murex umbrifer* than we had ever seen in one place before. All were in a remarkably fine state of preservation and perfection. A number of *Lyropecten jeffersonius edgecombensis* - natural pairs - were distributed to the members present.

. . . . W. E. OLD

THE SHELLS OF COATEPEQUE

by M. K. Jacobson

Explanation: Among other things, El Salvador has some exotic geographical names like Sonsovate, Quetzaltepeque, Zacatecaluca, Ichen-Michan. One of these names so charmed the writer that he was driven to express himself as follows. Will Hiawatha mind, do you think?

On the shores of Coatepeque, (Kwa-tay-peh-kay)
By this Salvadorean water
Lie some shells yclept *Gyraulus*
Others *Physa*, *Amnicola*;
Lie in numbers past all telling,
Like the stars, beyond all counting.
Queer the size of these small mollusks,
Dwarfed but perfect, small yet full-grown.
Physa not one inch in stature,
-- as is common in the genus --
Rather one-eighth, even smaller.
Vain it is to search for larger,
Vain it is to find them normal.
Dwarfed are they by sulfrous water
Just as surely dwarfed as you'd be
If you had to live in sulfur
Issuing from a dead volcano.
Therefore mock not these fine midgets,
Mock not shells from Coatepeque.

THE QUESTION BOX

Since I have just started collecting shells I have a few questions regarding cataloguing:

1. Which is best, a card file or a ledger?

A ledger is best. In it each specimen or lot is listed in consecutive numerical order, and it can be added to at any time. A card file is more limited (and easily dropped). Some collectors keep an alphabetical card file of genera, species, or by localities represented in their collections. (See also answer to No. 6.)

2. When you have several shells of the same species from one locality, do you group them under one number?

Yes, shells of one species from a given locality constitute a single "lot" and should be given one number in your catalogue. For example, if you have 75 specimens of *Littorina irrorata* and 1 *Nassarius trivittatus* from Cresfield, Md., this constitutes two lots. With a large lot, number some, and the rest may be used as duplicates. But keep a slip or slips with full data with the unnumbered ones. Shells too small to be numbered may be kept in boxes or vials, but accompanied by a numbered slip.

3. When you have several of the same species from different localities, do they receive separate numbers?

Yes, each lot from a different locality should receive a different number. Actually, the purpose of numbering is to allow storage of shells close together, and to prevent mixing. Also to facilitate sorting, should a tray or drawer be dropped. Some collectors, who like to have an idea of how many different species they have, keep a tally on the margin of their ledger.

4. Would it be wise to catalogue other marine life besides mollusks in the same way, or to have a completely separate file or ledger?

This depends, in part, on the number of non-mollusks in the collection. But whether you have a few or many echinoderms, crustaceans, etc., it might be best to have a separate ledger for them. (See answer to No. 5.)

5. If using a ledger, which is the most used system: continual numbers, or letter and number combination?

Consecutive numbers is the customary system in cataloguing shells. A letter prefix may be used for cataloguing other invertebrates.

6. Should one separate large families such as Conus, Murex, Pecten, etc.?

This, again, is partly a matter of taste. Should you have obtained a number of shells before undertaking cataloguing, they can be sorted by family to simplify the book work. This way the generic name (Conus, for example) can be dittoed down the page, and unidentified Conus catalogued at the end of their genus. Also, shells collected in, or assortments received from, one locality can have the data written at the top of a column and dittoed down the page. For example, "South of Lighthouse, Yaquina Head, Wash." could be dittoed for each lot. This is a time saver, especially if the data contains several words. (If file cards were used, the entire locality would have to be repeated on each card.)

* *

In closing: To many beginners "cataloguing" is often confused with identifying. Actually, naming shells is relatively unimportant. Anyone can look in books and copy names, but only the actual collector can give the precise locality whence it came. Identification is greatly facilitated if the correct locality is known. Everyone has come into contact with the novice trying to identify Mediterranean shells from a book limited to American species, and vice versa. Since names are often based on geographical areas, it is important to save data. Every collector - no matter what degree of amateur - can add some information to the knowledge of mollusks.

. . . . W. E. OLD

17th AND 18th CENTURY SHELL GROTTOS

Our traveling members will be interested in these houses in Great Britain that have shell grottos -- and are open to the public certain days:

A la Ronde, Exmouth, Devonshire
St. Giles House, Giles, Dorset (1751)
Goodwood House, Chichester, Sussex (1780)
Mereworth Castle, near Maidstone, Kent
Woburn Abbey, Bletchley (1640)

Leixlip Castle, Kildare, Ireland, has a shell grotto which Victoria visited in 1870. However, it may not be open to the public.

. . . . LOUISE A. TRAVERS

THE GARDEN STATE SHELL CLUB

We congratulate the 14 Jerseyites who have formed a new shell club. To the best of our knowledge, this is New Jersey's first. Officers are: President Sam Freed, Vice President Harry Lee, and Sec'y-Treasurer Mrs. Jane Zager, 326 Union Avenue, Irvington 11, New Jersey.

WE WELCOME NEW MEMBERS: Mrs. Layna Verin, 430 West 119th St., New York 27, N. Y., and BROWARD SHELL CLUB, 1140 N. E. 24th Ave., Pompano Beach, Florida.

EXCERPTS FROM A WORLD-WIDE COLLECTING TRIP

by Gordon Usticke

In Bora Bora all food was local (quite unusual) and very good, including one animal ? or fish ? that nearly stopped me -- 12" long, looked like a huge centipede! But an explanation and demonstration revealed a tasty piece of white meat. Another, a French fisherman, invited me to share his noonday meal of breadfruit and a large boiled octopus he had in a big pot. I thanked him very much, and explained I had already eaten.

I found a few large cones almost buried in the sand, but not very much of interest. Terebra maculata (less than 6") were plentiful nearby, in the sand. We took a $3.30 "Promenade au pirogue" in a large native dugout outrigger with a big sail and a motor -- it really moved in the wind, and was lots of fun. We had a crew of two, and sailed to the outer reef, but shelling was only fair.

In Fiji I met several shell collectors. They all have very fine collections of cowries and were most hospitable. We went on the reef at Korolevu -- the coral is full of Cypraea moneta and allied species. Also, my wife found several Cypraea tigris under the coral and a fairly wide variety of other shells, but unfortunately our time there was too short -- the best cowries, etc., are got by dredging.

We took a trip up the Navaua River, a beautiful sight, and had kava (a queer, peppery tasting, muddy looking liquid) with a cannibal (?) chief in a small village. We survived.

Golden cowries are much sought after and sell for £50 or more. I saw a shell collector in Auckland, New Zealand, that had a fine lot. . As he pointed out, New Zealand shell nomenclature is not in agreement with that of the rest of the world -- some think we are wrong, but a few are uncertain.

We then went off Australia to Hayman Island on the Great Barrier Reef. There the tides vary from 15 to 20 feet between high and low. I discovered that the Barrier Reef is only workable when the tides are very low and the sea very calm -- and the sea was too rough while we were there. There is a fine reef off Hayman Island extending out about a mile offshore and teeming with marine life of all forms -- Conus, Strombus, Mitra, etc. My wife found some lovely Conus marmoratus and I found several of the Conus textile group (a few years ago a man was killed here by a large one). I got the largest Ostrea frons I have ever seen - immense, and also several of the hammer shells and Lambis lambis, very large. These are hard to see as they are covered with a heavy coat of seaweed and are usually partially buried in the sand.

My wife found one small live Bailer shell -- mostly animal. The sand was full of Strombus luhuanus and allied species, also many very large Ceriths (several species). A most successful and interesting shelling place.

Darwin surprised me by being rich in shells. A pretty Vexillum about 1½" long was common.

Bali had many shells, but time was too short to more than scratch the surface, and the whole island was covered with fine volcanic dust from a nearby volcano, which killed 1500 people a couple of days after we left, and made 100,000 homeless. . .

(To be continued)

NEW YORK SHELL CLUB NOTES No. 93 June-July-August 1963

Recording Sec'y
MARIAN M. SCHROTH

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

President
WILLIAM E. OLD, Jr.
900 West 190th Street
New York 40, New York

Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst 73, N. Y.
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, SEPTEMBER 8th, 1963, at 2:00 P. M.

PROGRAM: CONES OF THE LOWER CARIBBEAN, by Dr. H. E. Coomans of the American Museum of Natural History. (Illus.)
DREDGING IN THE EAST GULF, by William E. Old, Jr. (With color slides and display of shells.)
COLOR SLIDES OF FIELD TRIP AND AMU MEETING, by members.

* * *

These NOTES are distributed by mail, free of charge to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y promptly of any change in address.

PROGRAM NOTE:

Dr. Coomans will repeat for us the presentation he made at the A. M. U. meeting in Buffalo June 19th.

Bill Old will describe the action aboard and the prizes taken while dredging down to 200 fathoms on a trip with Jim Moore out into the Gulf of Mexico.

* * *

AMERICAN MALACOLOGICAL UNION
Twenty-ninth Annual Meeting*

Members of the New York Shell Club accounted for over a tenth of the registration at what was generally agreed to be one of the most interesting and best-organized conclaves of the A. M. U. The Buffalo Museum of Science, together with the Conchological Section of the Buffalo Society of Natural Sciences, played host to almost a hundred malacologists and collectors from June 18th to 21st.

President Albert R. Mead had arranged a most comprehensive program, covering the interests of the amateurs as well as the professionals. The papers presented ranged from "Collecting on Cocos-Keeling Atoll, Indian Ocean" to "Cytological Studies of Pomatiopsid Snails". Even such papers as the latter were worthwhile for us non-professionals, as they demonstrated the beauty (in a logical sense) of the scientific approach to a problem, and also that techniques "borrowed" from many other fields are not

only useful but becoming increasingly necessary in malacology. Dr. Clench's prefatory review of developments in malacology over the past quarter century, and the concluding session of colloquia setting forth present trends and problems for the future, gave us a comprehension of the great importance of this science to man's knowledge and welfare.

The final day was spent, by many of the non-local members, in a tour through the beautiful parks along the Canadian side of the Niagara River; climaxed, of course, by the stop at the great Falls. We lunched high above the spectacular scene, in the Crown Dining Room of the Seagram Observation Tower - an unforgettable experience. After brief stops at the new power project and at the whirlpool in the river gorge, we returned to Buffalo through the cherry orchards and super-highway cloverleafs of the New York countryside (yes, the bus driver got lost).

Incidentally, nightclub and television talent scouts would have done well to attend this meeting. We had some amusing slides and commentary from Dr. Alan Solem and an amazing series of rapidly executed chalk sketches by Dr. John Storr, of Buffalo University's Biology Department, introducing his fascinating film on tropical reef creatures; but Prexy Al Mead's final address was a real gem - a tour de force of deadpan, rapid-fire wit that nevertheless carried a serious message (it emerged in the final paragraph, after his audience had been almost rolling in the aisles for over half an hour).

. . . Edward F. Cowles, Jr.

* For the last few years we have cooperated fully in extending an error made some time ago in the enumeration of the A. M. U. meetings. Back in 1959 a number was skipped, but now we're straight: the 1963 meeting was the 29th (not the 30th as designated in our May NOTES), and the 1964 meeting will be the 30th. (D. R.--Ed.)

AMERICAN MALACOLOGICAL UNION--THIRTIETH ANNUAL MEETING--1964

The A. M. U. has accepted the invitation of Dr. Dee Dundee to hold the 1964 meeting at New Orleans as guests of Louisiana State University. Already enthusiastic plans are being made to entertain the delegates. With memories of this enjoyable and instructive meeting still fresh in our minds, everyone who can possibly do so is planning to attend next year's meeting, when John Q. Burch will preside as president.

A PROJECT FOR SUMMER SHELLERS

Dr. Arthur H. Clarke, Jr., of the National Museum of Canada, Ottawa, Canada, has been making a study of the Pectens of the western Atlantic, but lacks a proper supply of specimens from the Long Island and New Jersey coasts. If you find some of our Aequipecten irradians, why not help out and send them to him? Don't forget to give the exact location where found. Double valves preferred, of course, but if singles both right and left valves should be included in the lot, with right valves predominating. (The right valve is the one with the byssal notch.)

COMING SOON!

Dr. Clench tells us that the new number of JOHNSONIA (Voluta) is on the presses.

SATURDAY, JUNE 15, 1963

DEAR DIARY:

Today was the New York Shell Club's Annual Field Trip and Outing to Orient Beach State Park. It was not a complete failure -- some people got a few shells and a few people got a lot of shells. I was one of the few to get a lot.

The day did not have a very auspicious start. There had been heavy thunder storms through the night and it was still very cloudy in the morning, but the weather forecast was good: "Cloudy in the morning, clearing later with high temperature of 75° to 80°". So I set off with high hopes. We who were to get on the bus in Queens were waiting well before the appointed time of 8:30 A. M. We spent an anxious half hour until our chartered bus came into view, with President Bill Old "riding" beside the driver. Bill checked us off on his list and the bus with 30 passengers continued eastward toward Orient Point. As we traveled the grey skies got darker, and it soon started to rain -- off and on at first, then steadily. We were all very depressed by the time we got to Riverhead, and made a rather long rest stop.

It was 1:30 P. M. when we drove into the parking lot at Orient Beach State Park. It was still raining, and we were almost surprised to see half a dozen cars in the lot. Some 14 other adventurous shellers had arrived ahead of us (and had been looking for the bus since noon.--Ed.). Of those people, only Ethelyn Woodlock had come prepared for bad weather. With plastic pants and jacket over her clothing, and a plastic sou'wester type hood on her head, she had walked about 2 miles to the west around Long Beach Bay (the "back bay") and came back with a pail filled mostly with colorful scallop shells, *Aequipecten irradians* -- dead but still attached in natural pairs. This was enough to send 5 or 6 of us out with shell bags and high hopes:

Sure enough, we found pecten valves in abundance and even occasional pairs. There were also natural pairs of *Anomia simplex* - a very pleasant surprise - and a number of the interesting *Laevicardium mortoni* (also dead) in the piles of seaweed and reeds that had been rolled up on the beach. A more careful search of the drift revealed *Melampus bidentatus*, often still colorfully striped with brown. The weather did not permit much careful work, however -- it was raining moderately and the strong cold wind made the rain sound like little hail stones bouncing off my plastic rain hat. Several wet shellers turned back to the bus after covering 500 feet or so of beach. Some of us continued and found *Littorina saxatilis* in abundance (alive and dead), many broken *Busycon carica* and some *Busycon canaliculatum*. Some of the Busycon had very pretty colors inside the lip but were too damaged to carry home. By now, all except Richard and I had turned back. Richard was wearing a raincoat but was bareheaded. I was wearing a rain hat, bathing suit and wool sweater. I felt that as long as I was all wet I couldn't get any wetter. Besides, I had promised Orient Point shells to people.

About a mile or so from the bus, I saw what looked like a shell on top of a large board. I trotted over to look at it and laughed as I picked up a very beach-worn *Cypraea*! I called to Richard that someone had been "seeding the beach", and stopped to examine my find. Richard passed me and a few seconds later yelled that he had found a beautiful beach specimen of *Turbo*!! We continued along the beach, warmed somewhat by our extraordinary finds. I collected a few pairs of dead *Mercenaria* full of muck and gravel, thinking I might find some interesting small shells later. (I did!) Richard took 2 broken *Busycon carica* because they held so many live *Littorina*

saxatilis. We decided to turn back, and hurried because we thought the others in the bus would be anxious to leave. The walk back seemed very long, even at forced-march tempo, and the plastic shopping bag bumped and scratched at my bare legs as I struggled back. Crossing to the Gardiners Bay side, we got to survey a thousand feet or so of that beach very rapidly. We heard the bus horn sounding as we jogged across the playground, and we entered the bus to the tune of dire predictions of pneumonia. (Happily they were wrong. I didn't even get the sniffles.) They waited for me while I changed quickly into dry clothes, and the bus left Orient about 3:20 for the long ride home. It was still raining.

The next afternoon I cleaned my "loot" and was pleased with what I found:

Alive: Crassostrea virginica - 1 specimen
Modiolus demissus plicatulus Lamarck - 1 specimen, also many dead pairs.
Littorina littorea Linne - 1 adult specimen
Littorina saxatilis Olivi - many
Nassarius obsoletus and Littorina juveniles
Melampus bidentatus - 1 juvenile

Dead: Laevicardium mortoni Conrad - mostly in pairs
Mercenaria mercenaria - some in pairs
Mytilus edulis Linne
Mya arenaria Linne - juveniles only
Lyonsia hyalina - 1 juvenile
Anomia simplex Orbigny - many single valves and some natural pairs
Aequipecten irradians - 14 pairs and many single valves
Melampus bidentatus
Crepidula fornicata
Busycon carica
Busycon canaliculatum
Gemma gemma
Bittium alternatum (?) - 1 specimen
Odostomia sp. - 1 specimen
Hydrobia minuta Totten - several specimens
Urosalpinx cinerea Say
Nucula proxima
Others of us found live Crepidula plana
Crepidula fornicata
Lacuna vincta
and dead Ensis directus

. . . Marian M. Schroth

Another interesting find (by this too-soon-soaked sheller) was of tiny Nudibranchs on the seaweeds at water's edge, Gardiners Bay. I tentatively identified them as Eubranchus exiguus A. and H. from plate 15 in Abbott's "American Seashells". The range given is from the Arctic to Boston, Mass., but strangers frequently wander into our Long Island waters. Unfortunately we do not have a preserved specimen -- they lost color and disintegrated when they died a few days later.

Have any others of our New York Shell Club shellers found these tiny Nudibranchs in Long Island waters -- and can they offer any further information on them?

. . . Dorothy Raeihle

EXCERPTS FROM A WORLD-WIDE COLLECTING TRIP
by Gordon Usticke

The Giant Clams come in three distinct varieties. The first I encountered was the mud clam which lives in shallow bays. On the Island of Moorea (Tahiti) pairs were washed ashore in great profusion. Usually 5" to 8" long, they are rather lopsided looking. On the reef at Hayman Island (off Australia) the real giant was plentiful at low tide. I did not find any over two feet long. They are very colorful when open, and much too heavy to lift. Less common was the *Hippopus*, usually prettily marked with reddish spots, and never as large -- not over 12" to 15". I collected some of the smaller, more portable ones.

Thailand's capital, Bangkok, is now a long way from the sea -- we took a trip of 200 kilometres from there to the sea. Again plenty of shells -- a great many *Arcas*, also many bivalves similar to Florida shells. The *Donax* are used as food, a *Polinices* is almost identical with *P. duplicatus* and in many other shells the similarity is striking.

Enormous *Murex ramosus* live in the Gulf of Siam, also large *Volutas*, the large *Architectonia nobilis* is common, and a pretty small pink *Tegula* (?) is all over.

In the ancient capital city of Ayudya, now in ruins, I found the remains of an enormous *Unio*.

In the Philippines we went to visit friends at Bacolod City on the Island of Negros, and had a most unexpectedly interesting time shelling. We went to the wharf at 6 A.M. when the shrimp trawlers came in -- all shellfish and small fish were loaded in boxes, which were full of various *Nassarius*, *Cypraecassis*, many *Amusiums*, etc.

Afterwards we motored out to Sagay, which I was told came from the Tagalog word "Sigay", which is their name for *Cypraea annulus* and allied shells.

We then embarked on a double outrigger canoe (with outboard motor) and sailed to the Island of Molocaboc. Here the shore was a mass of shells -- commonest were various small *Strombus* types, *luhuanus*, etc., also *laciniatus* and *canarium*. There were very many *Lambis* of different species, but none over about 5". *Voluta vespertillio* about 3" to 4" long was also quite common, and there were many large *Delphinulas*, and *Murex* up to 10" comprising many species including *endiva*. The very large *Cassis cornuta* was not uncommon, also a very big *Melodiadema* (Bailer shell) though these were uncommon. There were a great many other shells -- *Conus striatus*, large *Conus leopardus*, *Ovula ovum*, *Umboniums*, etc.

Our return trip was made on the biggest outrigger (canoe?) I have ever seen -- it would probably hold much over 50 people. . . Everywhere we went, we were accompanied by clouds of small fry!

In NOTES #92 Mr. Usticke told of drinking "kava" with a cannibal(?) chief. With our usual curiosity we looked in Webster's New International Dictionary: "KAVA (kä'vä), n. (Also kavakava). (Maori, etc. 'kawa', literally 'bitter'. 1. Either of two Australasian shrubby species of pepper (Piper methysticum and P. excelsum), from which an intoxicating beverage is made, the root being crushed, formerly by chewing; also, the beverage itself. The root also yields a crystalline acid, 'kava' or 'kavaic acid' (kävā'ic). 2. Pharm. The dried rhizome and roots of this shrub, used as a diuretic and genitourinary antiseptic." . . . . Drink of kava, anyone? dr

OBSERVATIONS OF MITRELLA LUNATA SAY

by Dorothy Raeihle

Last September 30th (1962) we stopped at Jones Beach to enjoy a late afternoon hour by the ocean. The beach was empty except for a few sea gulls scavenging the bait boxes left by the fishermen. I walked the beach, just far enough from the edge of the water to remain dry shod. (Well, almost dry!) The tide was coming in and there was not a mollusk to be seen -- even the drift line was barren. But there were a few shreds of a Bryozoan on the wet sand, and these I collected and carried home, wet with sea water, in a makeshift container.

The next day I untangled the mass, examined it under magnification, and found that I had a veritable nursery! There were six species of tiny mollusks, many of them still alive, clinging to the Bryozoan and to the bits of weed entangled in it. There were several specimens of the mollusk I had hoped to find -- a minute, rosy-brown bivalve tentatively identified as Lasaea rubra Montagu; there were tiny slippers -- Crepidula plana and another Crepidula too small to see whether they were fornicata or convexa; there were a few baby ark shells -- Anadara transversa, some mussels -- Mytilus edulis, and several of the little lunar dove shells -- Mitrella lunata. In size they ranged from a Lasaea of about .6 mm to the Anadara of almost 2 mm. Dr. Coomans of the American Museum of Natural History was kind enough to help me with the identification of the little Anadara, which as yet did not have all the characteristics of an adult specimen.

The Mitrella lunata averaged 1 mm in height and were two-thirds as wide as they were high (1.2 mm x .8 mm, 1.0 mm x .65 mm, .8 mm x .5+ mm etc.) At this size they had to be located in their aquarium (a glass dish) with a magnifying glass -- little roundish specks.

Three Mitrella, half a dozen Crepidula and several small bivalves were alive when we left for our November vacation. On our return early in December two of the Mitrella, four Crepidula and a very few bivalves had survived. The shells of the dead specimens were completely cleaned out. I started to feed the Mitrella shreds of shrimp, shellfish or lean beef in addition to their regular ulva and algae. Introduction of one of these meats brings immediate reaction -- the Mitrellas' siphons first wave in a circular motion and the snails become very active, raising and balancing on the back part of the foot while the siphons sweep around and then from side to side in search of the food.

By January the Mitrella were big enough to see without the magnifying glass, and I noticed that one specimen was definitely larger than the other. The larger specimen seemed to locate the food without any trouble, traveling to it in a fairly direct line. The smaller one, siphon waving wildly, would zig-zag all over the place, at times coming quite close to the food but unless it came really close would keep going off on a tangent. Most of the time I gave up and helped mollusk and food get together. This smaller snail got tagged "Henry", with his middle name "Stupid". The gender seems to be correct, from subsequent observations. And he did grow up, only a little slower than the other one.

February 7th, 1963: The larger specimen measured 3.8 mm in height and was 1.9 mm wide. The smaller one was now slightly more than 3 mm high and was about 1½ mm wide. Their proportions had changed, the ratio now being width one-half of height instead of two-thirds of height. On March 5th I again measured them: The larger one showed no additional measurable

growth, but the smaller had grown in height to 3.5 mm while still 1.5 mm wide -- in a more elongate form. On this day I had two more wiggly specimens to measure -- we had found *Mitrella* again on Bryozoan left high and dry on Jones Beach March 3rd. They were 2 mm x 1+ mm, and grew rapidly. On April 3rd all four specimens measured 4 mm. in height.

In the young *Mitrella* 1 mm high the animals were of a solid creamy white, with the black eyes the only contrast. Their shells, however, already carried the characteristic pattern of mottled brown and white. As they grew, tinges of grey, fait at first and gradually darkening, appeared on the siphons, head, tentacles and body. The operculums on the juveniles were larger in comparison to the animal than on adult specimens. By the time the shells reached 3 mm the color of the body markings had reached intensity: pretty black and white striped siphons and tentacles, very dark grey head, and a pattern in black and white on the animal similar to the pattern of the shell. However, the underside of the foot remains a creamy white.

When out of water (as on the stone in the dish) the *Mitrella* proceed with rather a jerky motion -- the foot advances, then the shell is pulled forward. Under water, on a smooth surface such as the bottom of the dish, the extended foot glides in a line while the siphon and shell are rhythmic in their sway left and right. The snails frequently climb the side of the dish, or stone, or piece of seaweed to the surface of the water then roll over backward, propodium extended, shove off with the back of the foot, and swim upside down on the undersurface of the water. (When swimming like this a mucus thread spins off behind the foot. I have no theory for any reason for this -- there is no mucus thread when they are crawling on a solid surface.) They scull with the siphon and use the foot as a rudder.

The proboscis is very extensible, and seems almost as thick as the siphon. All white and translucent, the swallowing motion can be seen within it. I watched while a *Mitrella* cleaned its own spire and the grooves in the body whorls of its shell, the tip of its proboscis working into the tiny crevices. *Mitrella* feed with a pumping motion. Sometimes the proboscis is thrust well into the food, sometimes it is not visible as the animal grazes or bites at the food with the proboscis about even with the mouth.

Late in March the two older *Mitrella* started courting, high on the side of the dish, or the stone, or on a piece of seaweed. Later I watched them courting as they floated upside down on the undersurface of the water. Their shells were side by side, touching. Their feet were only half way extended and turned away from each other:)(. Their siphons were crossing and stroking, occasionally tentacles would reach to the tentacles of the other snail.

Though veligers appeared in the dish with regularity, I did not locate the egg cases until May 6th! They were laid on the seaweed, many of them right on the edge. They were so tiny I had to pick up the glint of white with the 7 x, verify with the 14 x, then see them under 30 x. More than half a sphere when seen from the side, and when seen from the top the "white" of the egg is transparent and the "yolk" a white speck more than one-third the diameter of the whole egg. The eggs are laid singly, though two or three may be side by side. I saw them in the yolk, the embryo and the pre-veliger stage. There was just one egg in each little round capsule.

The veligers are very translucent, small and shiny, and I have not seen much of their anatomy. However, they have two velar lobes and the cilia is rather long. As yet I have not had any survive more than three weeks.

SUMER HAS ICUMEN IN

And we'll all be off on vacation trips. Whether you spend your time at the seashore, a lake, or in the mountains, you have the opportunity to observe live mollusks (if you can find them). You don't need elaborate equipment -- a makeshift terrarium for the land snails, an enamel, glass or plastic container for the freshwater or marine mollusks (with the latter an aerator would help for deeper water species). You are at the scene, so you can refresh the water or the foliage as needed. Notice the mollusks' habitat, watch how they move, how they feed -- then put them back where you found them before you leave for home -- unless you want to study them further or need them for a record. Observation of the living animals makes identification easier as well as adding to your knowledge. . . . Have a nice summer!

Our member Anne Speers lives within reach of the Gulf of Mexico, and has kept a 25 gallon marine aquarium for some time. Her secret of success seems to be that she has achieved a fairly good natural balance among the tank's occupants. She writes:

"I've had excellent luck with the aquarium. Have two spiny sea urchins over a year old. The *Murex fulvescens* has grown *two* more varices and is really getting too big. The *Thais haemastoma* lay eggs on all the rocks in the tank. I have two live *Busycons* (*spiratum* and *contrarium*), one live *Sinum perspectivum*, live sea whip coral with three live *Neosimnia uniplicata* plus several different crabs, a 'sucker' fish and a toadfish. There are also numerous *Anachis* and *Nassarius*, also about five sea anemones (2 species) plus live oysters and *Donax* which last until some tank mate eats them. I did have a perch, but it got so big I took it out. I know this sounds like a ridiculous number of animals in one 25 gallon tank -- but they do *beautifully*! I have a *large* aerator and keep it going full tilt." . . .

Well -- we recommend aquariums. They're instructive and fascinating.

dr

NEWS OF MEMBERS

From an article in a Fort Myers, Florida, paper on the 1963 Sanibel-Captiva Shell Fair: "The Shell of the Show blue ribbon went to Mrs. Harold Bixby of Captiva who also took a blue ribbon for her worldwide shells entry. Mrs. Bixby, who has been collecting through purchase and trading for about 15 years, showed a beautiful scientific exhibit of volutes.... The Shell of the Show was a Tibia fusus Linne from the Philippines. Young and adult specimens won the attention of the judges, Dr. Katherine Palmer and Dr. Edward A. Schumann, for the long and perfect spindle of the Tibia fusus. The growth series shown between young and old added interest."

All of us enjoyed Mrs. Dorma Coley's article on collecting on Sanibel Island, which appeared in the May NOTES. Pecten gibbus from Mrs. Coley were distributed at the June meeting.

W.E.O.

Wilma Wicks sent us some interesting descriptions of Australian beaches, and Ethelyn Woodlock gave us a paper recording her delightful presentation at the June meeting. You'll be reading these next fall.

Nick Katsaras tells us he's planning an auction for September. More later.

Mrs. Arthur Unger brought us this one (source: Sanibel-Captiva Shell Club): "Take all the dead shells you can carry -- But leave some live ones so they can marry!"

dr

NEW YORK SHELL CLUB NOTES No. 94 Sept. 1963

President
WILLIAM E. OLD, Jr.
900 West 190th Street
New York 40, New York

Recording Sec'y
MARIAN M. SCHROTH

Corresponding Sec'y
GRACE MC DOUGALL
16 Baxter Avenue
New Hyde Park, N. Y.

Vice President
Public Relations
JOSEPHINE WICHERN
62-08 99th Street
Forest Hills 74, N. Y.

Historian
NICK KATSARAS

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
Staten Island 10, N.Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst, New York 11373
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, OCTOBER 13th, 1963, at 2:00 P. M.

PROGRAM: FLORIDA MELONGENA, by Harold S. Feinberg and Mr. and Mrs. George Raeihle. (Slides)
MY VISITS TO EUROPEAN MUSEUMS, by Lawrence Potter.
A TRIP TO NOVA SCOTIA, by Warren Osterwald. (Slides)
*

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* Mr. and Mrs. George Stephens of Virginia Beach, Virginia, who last May told us of collecting Miocene fossils in Virginia, will be visitors at our October meeting. We hope they will tell us more of their collecting experiences.

PUBLICATIONS:

NOVITATES

A Publication of the American Museum of Natural History

#2149, dated July 25th, 1963: "A New Species of Latiaxis from the Western Atlantic" by William K. Emerson and Anthony D'Attilio. Obtainable from the library of the American Museum of Natural History, Central Park West at 79th Street, New York 24, New York. Price $.40.

Many of you will be interested in obtaining this paper, as you have seen Mr. D'Attilio's presentation on Latiaxis and the slides shown by Mr. Old of Jim Moore's dredging operations in the deep waters of the Gulf of Mexico where specimens of this new species, Latiaxis (Babelomurex) dalli, were obtained.

THE VELIGER

Not a new publication, but an excellent one that we like to remind you of from time to time, "The Veliger" is a quarterly publication on Pacific Coast shells by the Northern California Malacozoological Club of Berkeley, California. Subscription $4.50 per volume to Treasurer Mrs. Phoebe Balch, 1150 Brown Avenue, Lafayette, California.

PROGRAM HIGHLIGHTS OF THE RECENT AMU MEETING IN BUFFALO

By M. K. Jacobson

One of the striking characteristics of the papers given at this meeting is the fact that almost without exception they proved of interest to everyone, not only to the specialists. Even papers like "Variation and subspecific divisions within Aequipecten irradians" by Dr. Arthur H. Clarke, "Larval shells of the Architectonidae" by Dr. R. Robertson, "Observations on embryonic shell sculpture of some freshwater snails" by H. J. Walters, proved to be of lively interest to all, partly due to subject matter, partly to the interesting and lively presentation by the speakers. If indeed a series of talks did deal with cytology and such esoteric matters, the largest number by far were of immediate interest to amateur collectors as well as to the professionals. To prove this would involve a listing of almost all the papers. However, we would be derelict if we didn't mention at least those that seemed to us as absolute tops, such as: Dr. Katherine Palmer's "Brief history of shell interest and American shell clubs" which took us back to the Greeks and the Mayans; the various reports of collecting trips: the Bay of Bengal by Dr. Abbott; the two trips by Dr. Alan Solem, one from Hawaii to New Zealand and the other a world tour of shell museums and shell keepers (both delivered in a deliciously informal and humorous fashion); Cocos Keeling Island by Virginia Orr; El Salvador by M. K. Jacobson (which made history of a sort for being the first illustrated lecture ever given without illustrations -- the slides had been left in Rockaway). The Jacobson blooper was more than compensated for by the unbelievably beautiful pictures made by George Raeihle and presented in a quiet, beguiling manner by Dorothy Raeihle.

Talks on special shell groups were also enlightening and absorbing: Conus by Dr. Coomans, Agaronia by John Q. Burch, Siphonaria by Dr. Joseph Morrison, and Littorina by Dr. Joseph Goldwater who pointed out the interesting analogues in this family like _sitkana_ and _littorea_, _angulifera_ and _scabra_, etc. Other papers also need special mention but space forbids. However it would be a crime not to mention Dr. John Storr's film lecture called "Pastures of the sea". In addition to the film, Dr. Storr illustrated his talk with lovely drawings made right before our eyes. Some were so striking, though executed in a moment, that after the lecture members swarmed to the platform to procure samples for their shell room walls.

All in all, this was a convention rendered outstanding, in addition to the facilities and receptions, by an unusually interesting series of scientific papers.

At the business meeting, officers for the coming year were elected by unanimous vote, and after the banquet President Albert R. Mead presented the gavel to the incoming president and introduced those of the new slate who were present:

President	John Q. Burch
Vice President	Juan J. Parodiz
2nd Vice President (Chairman AMUPD)	A. Myra Keen
Secretary	Margaret C. Teskey
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	Arthur S. Merrill
	Dorothy Raeihle
	Ernest J. Roscoe

GOLDEN FOSSILS

by

Margaret C. Teskey

Stop the next four persons you meet and ask each to define a fossil. The answers you receive will be diverse: dinosaur bones; a grey stone; remains of something extinct; Mrs. Jones down the block.

The person who answered "stone" was recalling the symetrical pebbles he had found and taken to school. "Fossils", said the teacher; perhaps "brachiopods".

Now tell him that a fossil may be beautiful and he will stare in disbelief, or more likely will walk rapidly away. But show him the cast of a fern leaf in a slab of irridescent anthracite, petrified wood of shining jasper or a seashell of flashing opal and say, "These, my friend, are also fossils!" and watch his eyes widen in amazement.

There are also fossils seemingly molded of purest gold. They are of marcasite and the preservative is iron sulphite. Rare enough to have engaged the attention of European paleontologists a hundred years ago, these golden gems stud the shale banks of a placid creek near Buffalo, New York. Fool's gold is common, but most uncommon when it assumes the shape of a tiny cephalopod, clam, snail or, more rarely, a trilobite.

In the mid-Devonian period this part of New York State was beneath a shallow sea, rich in iron. We can only guess at conditions which may have thrown up a dam or other obstacle to restrict the ebb and flow of the tides, but it is clear that such a land-locked sea was created. A paleontologist who has studied the problem compares this ancient lagoon with the present Black Sea.

In any event, once moving water ceased to supply needed oxygen the animal inhabitants died in great numbers. As their bodies sank to the bottom and decomposition set in, organic matter was replaced by the predominating minerals present in the stagnant waters, hydrogen sulphide and iron. Thus a true mold was made of marcasite which shines as gold while the concretion of iron pyrite which built up about it formed a glittering tomb, itself entombed in the mud which formed the shale banks bordering the creek to-day.

These concretions are in the main spherical, ranging in size from a golf ball down to BB shot. Occasionally one is found to be elliptoidal rather than round, in which case the nucleus was a plant stem or a short piece of coral. All of the concretions must be cracked like a nut to reveal the fossil within.

Winters are severe in the area; frost cracks and loosens the shale, freeing what amounts to an annual crop. Generations of small boys have roamed the site, fishing and swimming in the creek in the fashion of small boys everywhere. "Let's look for nuggets!" is sure to be suggested, and the knowing leads his fellows to the layered cliffs.

And again the small boy is served, for the shining treasurers stud the shale in a horizontal layer, shoulder-high to the youthful collectors -- though what small boy ever minded climbing high for treasure, or for no reason at all?

The baubles they collect, heavy and shining like the gold they are not, hold brief interest before they are lost or discarded. But occasionally

a boy does not lose his initial wonder and if fortunate enough to have been treated with adult patience and wise council has gone on to serious study, finally to take his place in the marvelous world of the earth sciences. To such a child the shining fossils of Spring Creek are gold indeed.

* *

(On June 21st of the current year four delegates to the American Malacological Union annual meeting decided to forego the enticing tour of Niagara Falls in favor of visiting the area described above. After several near-misses of splashing into the creek, broken fingernails and general disarray, delegates Walters, Wakefield, Raeihle and Teskey returned to Buffalo hungry, tired, dirty and supremely happy -- as any confirmed collector will understand. --mct-)

DREDGING OPERATIONS IN CHRISTIANSTED HARBOR -- 1962 - 1963

By Gordon Usticke

On November 18th, 1962 a large dredge started to dredge to 20 feet between Mount Welcome and Protestant Key, operating fairly close to shore, depositing 300,000 yards of sand to build up a large playground area by Altona Bay.

On some days very large quantities of shells came up, notably many large and very colorful *Natica canrena*, many large and small *Cymatium femorale* and other *Cymatiums* such as *C. caribbaeum* etc.; a few *Latirus infundibulum* and many other gastropods. The bivalves included *Pecten ziczac* and the pretty and rare *Tellina guildingii*, as well as a great many of the common *Codakia orbicularis* etc. As the sand flowed into Altona Lagoon, it smothered the shell life it covered, and many *Tagelus gibbus* and *Nassarius vibex* came to the surface and expired.

After the completion of this project the dredge moved about a mile to the west, still in the harbor, and started dredging about a half mile off shore, bringing in a totally different lot of shells--very, very few *Cymatiums*, no *C. femorale* and practically none of the bivalves mentioned above, but there were large numbers of a big olive between *Oliva reticularis* and *Oliva fusiformis*, also a surprising number of large *Trigonostoma rugosa*, hitherto a rather rare shell; quite a few *Conus spurius* in the orange or orange yellow colors (not the Florida shell). The *Natica canrena* were the typical off-shore shells from deeper water, very pale in color and mostly marked differently to the usual shallow water shells. Exceptionally large *Conus jaspideus* and *Conus verrucosus* were brought up occasionally, with intermediates; some were pure white and some colorful. Rare *Naticas* were found including *Stigmaulax sulcata* and *S. cancellata*, also *Glyphepithema floridana* - some of the latter with unusual markings; and enormous *Polinices lacteus*.

The *Epitonium* group was well represented, a prize being an enormous *Cirsotrema dalli*; also many *Opalias* including large *Opalia morchiana pumilio* and a number of others, the commonest being *Epitonium foliaceicostum*. The bivalves included the rare *Tellina magna* and *Tellina laevigata*, as well as *Apolymetis intastriata*. The commonest shell was undoubtedly *Bulla occidentalis*, including some enormous ones nearly two inches long.

For the lazy man it was great fun waiting to see what the dredge would bring up next. One real surprise was a Pacific shell, *Strombus maculatus*, absolutely fresh with a heavy periostracum! What was it doing there? I never found another. There was also a live *Hipponix benthophilum* which is a very deep water (1,000 feet) shell -- it was attached to a "*Peristernia sp.*" shell.

BEACHES WHERE I HAVE GATHERED SHELLS

By Vilma Wicks

Australia, geographically speaking, is a small continent. Even so it is a vast land, well proportioned and ideally situated on our earth. It gives material too great for complete exploration by the hobbyist who has normal responsibilities and obligations. I live in a suburb of Melbourne and, though with limited time, I manage to have contact with a number of places around Australia. Unfortunately the visits made are far too short but nevertheless very acceptable and enjoyable. The beaches around Australia are many and varied. I would like to give members a mental picture of the ones I have actually visited.

With a few exceptions our beaches are mostly clean sandy stretches varying from narrow to quite wide, interspersed with rocks and rock platforms, some with cliffs or sand hills, and our bay beaches mostly are flat stretches leading to the beaches. Where populated, houses are built along the shore line.

The sand itself varies considerably from very fine, almost white at Jervis Bay, New South Wales, through all degrees of golden from pale to dark and even a burnt brown. There are mud areas, but these are in the minority -- then they exist under the water beneath the sand or seagrass.

Much of the coast line is as yet not accessible but there are so many different lovely beaches that the visitor is well rewarded by a visit, either with the scenery, the fishing or the shelling. There are times, of course, when a good locality for shelling does not come up to expectations for one reason or another -- and always there is a degree of luck.

VICTORIAN BEACHES:

From a shell collecting point of view the Victorian beaches are the poorest of all the states. Our Victorian shores are more pounded by waves than the eastern coast and the coast of South Australia, resulting in a lesser number of species of molluscs, etc. The lower temperature of the water may also be a contributing factor. However, we do get a good variety of interesting and, in some cases, attractive and even beautiful shells. For instance, the *Mimachlamys asperrimus* in its variety of colors from reddish through pinks, orange and down to pale yellow.

Another very pretty shell is the bivalve *Callinaitis disjecta*, also our three *Volutas*: *undulata*, *roadnightae* and *ericusa sowerbyi*, and that large *Mamilla mamilliana*. Last but by no means least of my "mentions" is the "wonder cowrie", *Cypraea hesitata*. To me it conjures up so much in beauty of live color and you might say courage -- this is pure fantasy, but just the same let's think it is just showing its northern warm water relatives what can be done to bring about the exception to the rule, as this cowry is so called the "wonder cowrie" because from its appearance it should be a product of warm tropical waters.

Ocean beaches from Rye to the Keach past Sorrento and Portsea are mostly very wide and clean with rocky cliff areas in between. Of these ocean beaches, the main one has cliff area above the beach, which is wide and clean with a lot of rock platform extending for a long distance to the heads. It is covered at high tide, but low tide uncovers an area -- depending on the height of the tide -- from a few yards to a large area that

can be explored for many hours. Here is to be found (I never have found a live one) the rare *Conus singletoni*, the white cone.

I have visited many beaches of Port Philip Bay which is quite large, having an area of 720 square miles. The eastern side from Melbourne is the better side for beaches. The beaches with close proximity to the ocean are the best for collecting, such as Sorrento on the eastern side and Queenscliff and Point Lonsdale on the western side. These are near the heads into the bay. Beaches are good: sandy with a small amount of cliff area.

Sorrento has a rather narrow stretch of beach, clean sand with no mud, a certain amount of rock platform here and there. In this locality I have gathered *Cabestana waterhousei* (See NOTES #90--Ed.) in the crystal clear water which is warm in the shallows from December to March.

Voluta undulata is also to be found here in the shallow waters of Sorrento Bay -- and the *Phasianella australis*, the *Cabestana spengleri*, etc. I have been fortunate to find alive a few *Voluta undulata* and in each case I notice that the spire seems to be longer than those I have seen from any other locality. This is something I will try to investigate. It may not mean anything other than the conditions where I find them, as it is in the bay and therefore could be more congenial to the animal for building its shell.

There are a variety of marine animals such as crabs, starfish, sea slugs, cuttlefish (I have seen large ones swimming around a big rock), box fish and others.

Incidentally there is a large marine aquarium adjoining the bay in Sorrento where the water is continually pumped in and out. There are wall tanks about ten feet high, also a large tank which "houses" some sharks, stingrays, etc. All fish are from Port Philip Bay.

Here in the bay, yachting, fishing and water skiing are well followed, also underwater spear fishing in the bay and ocean. Also swimming, surfing and life-saving practice.

This concludes Port Philip Bay. Later I will write briefly of the beaches of Western Port Bay and Lakes Entrance, Victoria, and later still of the beaches where I have collected in New South Wales.

THE TOKYO SHELL SHOW

(From a letter to Anthony D'Attilio, datelined Yokohama, Japan, June 17th, 1963): " . . . The Tokyo Shell Show started on the 15th of May, and I think that was the day the stamp depicting the Emperor's Top Shell (*Pleurotomaria hirasei*) was issued. To open the show the Emperor came and cut a ribbon across a bridge leading into the show room. All the shells were in glass wall cases and quite unusual to look at, as all the collectors combined their shells so that each molluscan family was together. No individual collections were shown, and there were no prizes. However, there were some displays on shell products for food and jewelry, and at the end of the whole affair a dealer sold shells. It was quite different than any show I ever saw. . . By the way, the model of our Liberty Bell, made of cultured pearls, is worth over one million!

PHILLIP CLOVER "

SHELLS ARE WHEN YOU FIND THEM

by Dorothy Raeihle

Reading the lists of shells recorded from particular localities can make one feel very inadequate as a sheller when a locality has been visited several times and but few of the species collected. It is only on that rare visit when conditions are just right that the sheller finds the hoped-for rich variety of species.

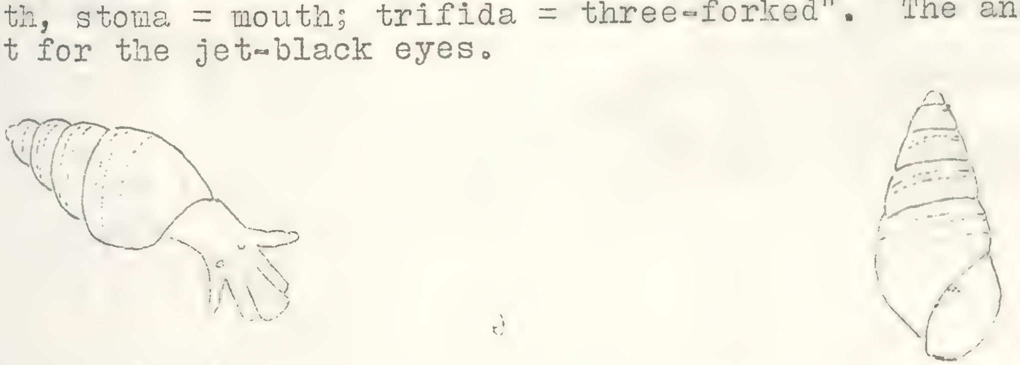
Center Island Reef near Bayville has been a favorite area of NYSC shellers for many years, and it might seem that we should by this time have collected samples of all the species to be found there. Not so -- we still have some to look forward to:

On August 18th I collected ten living specimens of *Odostomia trifida* Totten. This was the one species on Gordon Usticke's list of shells found across the Sound at Sheffield Island (See NOTES #53) that I had not found at Bayville, and is an addition to the Bayville list in "Shells of the New York City Area". They were in the pail of algae covered stones and sea lettuce that I had gathered for my aquarium herbivores.

Some time ago I brought home *Odostomia* from Canarsie Beach, on Ulva that was put into an aquarium with *Nassarius*. Soon afterward I noticed a *Nassarius obsoletus* twisting and jerking, and stretching its proboscis back over and around its shell. The *Nassarius* was trying to dislodge two tiny white mollusks that were clinging to it. They were *Odostoma trifida* in action.

Odostomia is a parasite of the family *Pyramidellidae*. J. E. Morton in his "Mollusca" writes: "The Pyramidellidae have elaborate mouth parts, exquisitely modified for piercing and sucking. The chitinous edges of the jaws are opposed to each other and prolonged into hollow stylets, running along a tube formed from the buccal lips. The radula is lost, all hard parts being formed from the jaws. The muscles of the pharynx form a sucking pump, and the ampullae of the salivary glands are muscular as well, providing a pump for the enzyme-carrying saliva." They attach themselves to another mollusk and suck the host's body fluid for a diet of liquid protein. (No wonder the Nassarius was thrashing around!) M. K. Jacobson in NOTES #75 said of them: "In all likelihood, however, this is merely an annoyance, like fleas and body lice, rather than a matter of imminent peril."

Odostomia trifida is tiny -- to 4 mm. The shell is glossy white with three spiral grooves high on each whorl. The columellar tooth is a distinguishing feature and serves in identification even when the shell is badly eroded or covered with growth. The name is descriptive--Henry Poirier in his "Systematic List.." gives this note: "Odostomia--from the Greek odous = tooth, stoma = mouth; trifida = three-forked". The animal is all white except for the jet-black eyes.



Odostomia trifida Totten

SEPTEMBER, 1963, SUPPLEMENT TO ROSTER OF NEW YORK SHELL CLUB

We welcome these new members, and bring you up to date on address changes received since our December, 1962 supplement:

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South Country Road
R. F. D. #1
Brookhaven, New York

BROWARD SHELL CLUB
c/o Mrs. Terry Marsh, Cor. Sec'y
1140 Northeast 24th Av., Apt. C
Pompano Beach, Florida

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Upper Station Road
Garrison-on-Hudson, New York

DUBIN, Mrs. Pauline
1202 Spofford Avenue
Bronx 59, New York

FAULKNER, Miss Virginia
New Vernon
New Jersey

FORNARI, Mr. Daniel
2 Rivers Road
Great Neck, New York

GODDARD, Mrs. Alice
309 Avenue "C", Apt. 4H
New York 9, New York

HISLOP, Codman
Dorset
Vermont

KENT, Miss Marian
236 North Walnut Street
East Orange, New Jersey

KENT, Mr. Stanley
Jordan
New York

MERRITT, Mr. & Mrs. William
Box 63
Millington, Maryland

NAIDE, Dr. Meyer
2034 Spruce Street
Philadelphia 3, Pa.

NINK, Mr. John
Chapel Avenue
Brookhaven, New York

PARSONS, Mrs. Norman
420 East 23rd Street
New York 10, New York

PIERCE, Mrs. H. Denny
56B Franklin Street
Tenafly, New Jersey

PUCCI, Mrs. Michael
18 Daly Cross Road
Mt. Kisco, New York

REEVES, Mrs. Marjean
429-A 8th Street
Brooklyn, New York 11215

RIPTON, Miss Rosina L.
32 Thompson Street
New York 13, New York

ROGERS, Miss Valerie
ROGERS, Mrs. Wanda
1837 59th Street
Brooklyn 4, New York

ROTH, Mrs. Diane deVry
240 East 15th Street
New York 3, New York

SLACUM, Mr. William
53 Choptank Avenue
Cambridge, Maryland

VERIN, Mrs. Layna
430 West 119th Street
New York 27, New York

VOLZ, Mrs. R.
2440 Coolidge Avenue
North Bellmore, L. I., New York

WELSH, Mr. Richard
1680 York Avenue
New York 28, New York

WOOD, Mrs. Tanya
145 East 16th Street
New York 3, New York

CHANGES IN ADDRESS:

BURT, Mr. and Mrs. Arthur W.
P. O. Box 186
Fairfield, Connecticut

ERVIN, Mrs. Thomas
530 East 72nd Street
New York 21, New York

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President
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900 West 190th Street
New York 40, New York

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62-08 99th Street
Forest Hills, N.Y. 11374

Treasurer
MATHILDE WEINGARTNER
17 Amelia Court
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Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst, New York 11373
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, NOVEMBER 10th, 1963, at 2:00 P. M.

PROGRAM: A TRIP TO NOVA SCOTIA, by Warren Osterwald (Slides)
COLLECTING EXPERIENCES, by Mr. & Mrs. George Stephens
SHELL-OF-THE-MONTH, by Albert Taxson

These NOTES are distributed by mail to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. A limited number of back issues of the NOTES are available at 25¢ postpaid per single copy. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y of any change in address.

PROGRAM NOTE: If the announced program seems familiar, you're right. Unforeseen circumstances caused our guest speakers to postpone their visits, planned for October, to the November meeting.

PUBLICATIONS:

NOVITATES

A Publication of the American Museum of Natural History

#2153, dated September 24, 1963: "Results of the Puritan-American Museum of Natural History Expedition to Western Mexico. #19, The Recent Mollusks: Gastropoda, Strombacea, Tonnacea, and Cymatiacea." By William K. Emerson and William E. Old, Jr. Obtainable from the library of the American Museum of Natural History, Central Park West at 79th St., New York, New York 10024. Price $.40. 38 pp., 28 fig. (black and white photo.).

"The present paper continues a study of the Recent marine mollusks collected in west Mexican waters during the course of the expedition...(and) includes records that extend the known geographic and bathymetric ranges of some of the species representing the three superfamilies covered by this report. An attempt also has been made to determine for the west Mexican region the modern and fossil distributions of these species."

Earlier reports on results of this expedition were published in:

NOVITATES #1894 (1958) General Account. By W. K. Emerson
1995 (1960) Pleistocene Invertebrates from Ceralvo Island. By W. K. Emerson
2013 (1960) Shell Middens of San Jose Island. By W.K. Emerson
2112 (1962) Conidae. By W. K. Emerson & W. E. Old, Jr.
2163 (1963) Cypraeacea. By W. K. Emerson & W. E. Old, Jr.

AMERICAN MALACOLOGICAL UNION--THIRTIETH ANNUAL MEETING
NEW ORLEANS, LOUISIANA--JULY 21 - 24, 1964

Dr. Dee Dundee has written to AMU Secretary Margaret Teskey as follows: "The date has been set, July 21-24, and a hotel selected, right next to the French Quarter. Not New Orleans' finest, but clean and comfortable. Completely air conditioned, free parking, TV in all rooms, children free. .....I'd like to arrange as many local attractions as possible and have the banquet in one of the famous French restaurants, maybe serve escargot and/or any of the other mollusks eaten here."

Well, what can we add to that? Except to say, "Plan NOW to attend!"

ALVANIA KARLINI Clarke

In a recent publication of Bulletin 185 (paper 7) of the National Museum of Canada, Dr. Arthur H. Clarke, Jr. named a new species of Alvania (a genus of small marine gastropods) A. karlini in honor of our late Club member whose tragic death at a youthful age we noted previously. Dr. Clarke writes: "The species is named in honor of the late Dr. Edward J. Karlin, formerly of Bowling Green University, Bowling Green, Ohio. Slugs and other terrestrial molluscs were his special interest, and he was a careful and productive worker and a good friend. His premature death was an irreparable loss to his colleagues and to malacology." The shell comes from 290 fathoms on the western edge of the Chukchi Rise, which is an undersea plateau located about 800 miles north of Bering Strait in the North Canadian Basin of the Arctic Ocean.

mkj

THE KATSARAS AUCTION

Each year Nick Katsaras offers at auction an assortment of shells that never fails to surprise us, as we know that in one short year he has managed to get those superb specimens together from all parts of the world.

At the National Arts Club last month Karl Jacobson acted as auctioneer until Anthony D'Attilio (who had been trapped in a traffic jam) arrived to take over at 1:45. Never was a more joyful welcome given to anyone than that given by Karl to Tony! Nick ranged back and forth at the table, presiding, directing--with his badge of office (Cypraea aurantium, no less!) swinging and bouncing as he moved about. (No, it was not for sale.)

The items ranged from literature and whales' teeth through the popular species of Cypraea, Oliva, Lambis, Strombus etc. etc. to rarities which included Conus dominicanus, Conus aurisiacus and Conus genuanus.

We were struck by the exquisite beauty of a group of all white and near white shells: A perfect 15" Tridacna squamosus, dainty Clavella serotina and Cardium costata, ethereal Cyrtopleura costata, Spondylus wrightiana with spines unbelievably intact, Argonauta of the poets, Gaza superba, Latiaxis, Murex trialatus, and an unusual Murex bednalli.

There was levity ("Was Conus nicobaricus named for Nick?"), speculation (regarding a highly colored Strombus costatus--Nick suggested that its father may have been a Strombus gigas), seriousness (which reached a peak as two softly southern, sweetly feminine voices courteously but positively bid for Conus aurisiacus), -- and a most social intermission with very welcome refreshment.

Next year, Nick?

dr

SHELLING IN NEW JERSEY

by Dorothy Germer

Collecting shells in New Jersey does not have the glamour of the South Seas, but it does extend a challenge to the hunting instinct in a collector. Our molluscs are masters of camouflage and live in the darndest places. We have collected shells here in Jersey for about 3 years now, covering the area from Sandy Hook to Cape May for marine shells, and have been as far west as the Delaware River in our search for land and fresh water shells.

My husband and two sons are a great help in collecting. We have walked many a mile of beach searching, but not always finding shells. Most of our collecting is done in shallow water, some in deeper water with mask and snorkel. The marine life in Barnegat Bay is breath-taking, with sponges and sea anemones in all colors.

Long Beach Island is our favorite hunting ground; the Town of Barnegat Light, one of the best areas. Here at 8th Street is a long rock jetty where after a spring storm many shells get washed in between the rocks. A little further south, at about 13th Street, is a sand bar -- at low tide the water is about 2' deep. After a blow many shells are washed in over the bar from deeper water. Here, too, is a place where small shells are washed toward shore -- we scoop these up with a net or sieve.

The beaches at Loveladies and Long Beach Township are private. There are some good areas for shells there, but the average collector cannot reach them. We vacation in the town of Harvey Cedars, and just walk up the beach into Loveladies (no one stops us) so we have found some shells there, but only after a storm.

Long Beach Island is about 18 miles long and not very wide. The southernmost tip is a wildlife refuge and, if you are of the Hardy Breed, you can walk to the tip. (Bring a canteen of water--you'll need it!) At low tide there are some sand bars here, too. Someday I want to really walk down a way to see if we can find anything worth while, as there are many areas there along Barnegat Bay that are open to the collector. (Bring your insect repellent--our Jersey mosquitoes can really bite!)

We have done some fresh water and land collecting, but we'll leave the telling of that story to another club member. My weakness is that I can't kill land snails -- they are so cute. I leave them where I find them, to live on.

MARINE SHELLS WE HAVE FOUND IN NEW JERSEY

Alive at Barnegat Light:

Petricola pholadiformis Lamarck
Spisula solidissima Dillwyn
Spisula polynyma Stimpson
Polinices duplicatus Say
Crepidula plana Say
Littorina littorea Linné (Bay)
Mytilus edulis Linné on jetty
Lunatia pallida Broderip & Sowerby
Ensis directus Conrad
Brachidontes demissus plicatulus Lamarck (Bay side)
Astarte castanea Say (after storm) also at Sea Bright

Beach drift, Barnegat Light:

Lunatia heros Say
Polinices triseriatus Say
Crepidula fornicata Linné
Eupleura caudata Say
Anachis avara Say
Colus stonei Pilsbry, fossil
Busycon carica Gmelin
Busycon perversum eliceans Montfort
Cerithiopsis greenii C. B. Adams
Yoldia limatula Say (1 valve)
Abra lioica Dall (?)
Littorina irrorata Say (after storm)
Gemma gemma Totten

(Cont'd)

(Marine Shells New Jersey cont'd from Page 3:)

Beach drift, Loveladies and Barnegat Light:

Lacuna vincta Montague
Mesodesma arctatum Conrad
Bittium alternatum Say
Corbula contracta Say, single valves

Beach drift, Loveladies Harbor:

Epitonium multistriatum Say
Epitonium rupicola Kurtz
Mitrella lunata Say
Nassarius vibex Say
Odostomia sp.
Retusa canaliculata Say
Nassarius trivittatus Say
Donax fossar Say
Tagelus plebeius Solander
Siliqua costata Say
Barnea truncata Say (One valve)
Tellina agilis Stimpson
Tellina versicolor DeKay

Alive, Harvey Cedars, Barnegat Bay:

Crepidula convexa Say
Nassarius obsoletus Say
Triphora perversa nigrocincta C. B. Adams (in sponge)
Solemya velum Say
Laevicardium mortoni Conrad
Aequipecten irradians Lamarck
Aequipecten irradians concentricus Say
Mya arenaria Linné
Venus mercenaria Linné
Venus mercenaria alba Dall
Pitar morrhuana Linsley (after storm)

(Arctica islandica Linné, one valve after a storm.)

Alive, Kinsey Cove, Harvey Cedars:

Urosalpinx cinerea Say
Busycon canaliculatum Linné
Crassostrea virginica Lamarck
Anomia simplex d'Orbigny

Alive, South Amboy:

Macoma balthica Linné
Mulinia lateralis Say
Mya arenaria Linné

(Barnea costata Linné, dead, one natural pair of valves.)

Alive, Sandy Hook:

Mya arenaria Linné
Melampus bidentatus Say
Gemma gemma Totten
Littorina saxatilis Olivi
Littorina obtusata Linné

(Mesodesma arctatum Conrad in beach drift--dead.)

FRESH WATER SHELLS WE HAVE FOUND IN NEW JERSEY

Paramus:

In a drainage ditch: Lymnaea palustris elodes Say
" Lymnaea humilis Say
" Planorbula jenksii H. C. Carpenter
" Physa heterostropha Say
" Aplexa hypnorum Linné
" Sphaereidae sp.
Saddle River, Paramus: Anodonta cataracta Say
" Elliptio complanatus Dillwyn
Saddle River, Saddle River Borough: Viviparus contectoides Binney
Pine Lake, Washington Township: Campeloma decisum Say
Lake, Tenafly: Viviparus malleatus Reeve

NEXT MONTH: Harry Lee's report on land snails found in New Jersey.--ed.

SHELLING AT ST. JOHN, VIRGIN ISLANDS

by Ethelyn Woodlock

For many years my dreams have been of Sanibel -- dredging in the bay, digging in the mud flats, walking the beach on the Gulf side with the combined moon, wind and tide conditions right. The latter does not happen too often -- only once was I lucky enough to have true "shell shock". But now my dreams are of Gallow's Point, Hawk's Nest Bay, Windswept. These names are on the map of St. John, Virgin Islands. Last March I visited a painting pal who has built a winter home there. Indeed, the Halsey Sheffields have a spot "out of this world"! I arrived with my paint brushes, but they were not used as Suzy and I spent every minute touring the beaches. And WHAT beaches!

Gallow's Point, one tip of Cruz Bay, is hardly a beach--mostly rocks covered with *Cittarium pica* (alive) by the thousands. The natives make a "Whelk" chowder out of these but I would call it "Pica stew". Live nerites and many types of limpets, including the largest, finest *Fissurella nodosa* I have ever seen, *Acmaea pustulata* with the glossy yellow-orange interiors, *Hemitoma octoradiata* with the pale purple inside, *Acmaea antillarum*, *leucopleura* and *jamaicensis*. The common *Columbella mercatoria* in bright orange, yellow and reds are tucked under the small rocks on the beach. *Cyphoma* by the dozens, mostly *gibbosum*.

Here, too, are the long-spined sea urchins, dangerous as the spines will break off in one's feet, causing pain and swelling for days. I told Suzy about the vinegar treatment, so the next time she hears of a spine in a foot she can shorten the pain by many days. I was merely "brushed" by a dead spine on the beach and *was* able to pull it out, but the spot stung for an hour.

Nearer to Cruz Bay the shallows are grassy, and I found a live *Fasciolaria tulipa*, even redder than those on Sanibel. We could have walked out to the octopus hole under a ledge but the grasses have things that cause rashes and itches so it is best to snorkel. Mr. O. was at home--usually *is* in the daytime as he does his scouting at night. His doorway was nearly filled in with stones, which he does everytime he goes home, and his empty dinner plates (shells and crab cases) were outside. One large tentacle grabbed my poking stick. I was told I would not be able to get it away from him but I *did*, three times. Maybe he was happy or not very hungry. The story on the island is: "Keep away from Mr. O. in his hole. He will grab a foot, and while you are trying to free it with a hand, he will grab the hand, then the other hand, and IF you are fortunate enough to have your mouth above water you can scream 'HELP!'." 'Tis said. And I had always read that Mr. O. was friendly!

We flushed out two strange looking arrow crabs that darted like jets, and a beautiful red and white striped "barber shop" shrimp. These are now in alcohol in my museum.

If you wish to hire a tent for $25 a week, write to the Government, as Hawk's Nest Bay is part of the National Park System. You may have a slight food and water problem, but you will roll out of your cot onto the best beach I have ever found for miniatures. I literally crawled up the tide line on my knees, wrists and elbows. Here I found my first rare *Cyclostrema cancellatum*, tiny and perfect, a purple and yellow *Chama macerophylla*, a beautiful *Acmaea pustulata pulcherrima* with the deep red on the top, *Chlamys ornata*, *Lyropecten antillarum*, a tiny *Tellina listeri*, *Crucibulum auricula* with the shining pink and purple interiors and my

first *Cheila equestris*. In fact there were many "firsts" on these beaches. *Diodora minuta* less than 2 mm long were on the beach--I had never seen such small ones. Then I discovered that the rocks were covered with millions. I finally went back to the beach, as a knife broke them while trying to get them off. Millions, too, of *Littorina ziczac* which could be taken off the rocks so easily. Four favorites, *Epitonium lamellosa*, rolled in a tide pool and a tiny *E. albidum* as well. *Tectarius muricatus* was too common to pick but a few.

The islands are like mountain tops rising out of the turquoise sea. So many shades of heavenly blues that take away your breath for beauty. Suzy said the roads are much improved and I wondered WHAT they were like before improvement! They are mostly dirt ruts and stones, steep and narrow. I always thought the camera was tilted in photos of the jeeps making steep hills, but now I *know* the pictures MUST have been taken on St. John! Our jeep went *up* and *up*, twisting around huge boulders, up and still UP! I hung on for dear life. By the end of the day I learned how to bounce *with* the jeep--not "buck" it. One road we did NOT take. It was so steep it was almost a ladder. It had rained, so we slid down the long road-ladder on our feet. There was a "Private" sign at the top, but Suzy knows the owners. This is the road down to Windswept.

Trunk Bay, the most beautiful beach in the world according to the ads (which now I believe) and the snorkel trail marked under water is breathtaking for coral formations and tropical fish. Beyond is Cinnamon Bay, where we found no shells that day, and next to it, up and over the hill, is Windswept, a point of land jutting out into the blue. The beach was like an ocean bottom covered with shells, and piled in great heaps.

Have you ever found a deep orange *Spondylus americanus* only 3/4 of an inch long and perfect? My squeal could have been heard way back at Cruz Bay! Or a *Conus granulatus*, pale pink, 47 mm long and freshly dead as the gloss is still within? I found two rare *Latirus mcgintyi*, *Tonna maculosa* in all sizes, *Oliva reticularis* -- and three shouts went up for a huge *Phalium cicatricosum*, 55 mm. I already have two small ones that I found on Florida's east coast.

Purpura patula, *Pisania pusio* (the miniature trumpet), many *Cypraea cinerea*, *Mitra nodulosa*, a *Semele proficua* remindful of a butterfly, *Lima lima* and *Lima scabra tenera*. A large *Conus regius* and small *Conus mus*. Two small pink *Conus* that may be *bermudensis*. Only one *Hemitoma emarginata* but a perfect specimen and another "first".

Many *Cymatium pileare*, *caribbaeum*, and *femorale*, but for the most part the beach was covered with piles of *Astraea caelata* and *tecta*, all sizes and colors. Sea urchins and huge fans and corals were piled up at the high tide line. There was too much to carry, so we made a pile of things to be carted up that "ladder" on the next trip. We staggered UP with our baskets, pails and all arms laden with "loot".

My list is over 100 in species found. And in six days! I did not snorkel for the huge *Strombus gigas* as I knew I would not be able to take them home. I found juvenile specimens. I flew over from Miami with a suitcase weighing 20 pounds. I flew back with 40 and a huge bag weighing ? . It was heavy. Next year I will take only one bikini in the suitcase and wear a gigas hat tied on my head. Next year, too, I hope to shell on the south shore in the Caribbean. And go to Reef Bay to see the pre-Columbian stone picture writings left by the Arawak Indians.

All ask, "What is that piece of blue china doing in the middle of such a

utiful shell display case?" In 1733 the slaves revolted against their ners and all lives were lost, and buildings and contents ruined. Fragments of Danish blue china are still washing up on the beaches, and my piece was found near Mr. O. in Cruz Bay. Liking historical relics, I treasure, too, my piece of Danish blue.

I showed Suzy how to clean the live shells and the kitchen was filled with pans, cooking the many specimens. The porch was covered with washing and drying -- not clothes, but shells. I seem to think another molluskomaniac is materializing, as she is studying her new book, "Caribbean Seashells" by Abbott and Warmke, my gift to the new house.

"Unspoiled" is the word for St. John. "Unpicked" is the word for the beaches thereon. A spot of Heaven, forever in my dreams . . . . .

SHELLS FROM ST. JOHN, VIRGIN ISLANDS, MARCH 15 to 21, 1963

Acmaea antillarum
" leucopleura
" pustulata
" " pulcherrima
" jamaicensis
Americardia media
Arca imbricata
Arcopagia fausta
Asaphis deflorata
Astraea caelata
" phoebia
" tecta
" tuber
Atys guildingi
Brachidontes exustus
Bulla striata
Calliostoma jujubinum
Cerithium eburneum
" litteratum
Chama macerophylla
Chlamys ornata
Cittarium pica
Cheilea equestris
Codakia orbicularis
Columbella mercatoria
Conus bermudensis
" granulatus
" mus
" regius
Crassispira fuscescens
Cyclostrema cancellatum
Cymatium caribbaeum
" femorale
" muricinum
" nicobaricum
" pileare
Cyphoma gibbosum
Cypraea cinerea
" spurca
Cypraecassis testiculis
Crucibulum auricula
Daphnella lymneiformis
Diodora minuta
" listeri
Drillia albinodata
* Epitonium albidum
" lamellosa
Fasciolaria tulipa
Fissurella barbadensis
" nodosa
" punctata
Glycymeris decussata
Hemitoma emarginata
" octoradiata
Isognomen radiatus
Laevicardium laevigatum
Latirus mcgintyi
Leucozonia nassa
" ocellata
Lima lima
Lima scabra tenera
Littorina ziczac
Lucapina suffusa
Lucina phenax
* Melampus coffeus
Mitra albocincta
" barbadensis
" nodulosa
Modulus modulus
Morum oniscus
Nassarius albus
Natica canrena
Nerita peloronta
" tessellata
" versicolor
Nitidella nitidula
Oliva reticularis
Olivella nivea
Ostrea equestris
Phalium cicatricosum
Pisania pusio
Pitar fulminata
Planaxis nucleus
Polinices lacteus
Pseudostomatella erythrocomo
Purpura patula
Pyrene ovulata
Pteria colymbus
Semele proficua
Spondylus americanus
Strombus gigas
Tectarius muricatus
Tegula excavata
" fasciata
Tellina listeri
Thais rustica
" deltoidea
Trigonostoma rugosa
Trivia quadripunctata
Tonna maculosa
Vasum muricatum
Zebina browniana

**
Engina turbinella
Lyropecten antillarum

EXTRA! EXTRA! We have just received word that, by popular request, Anthony D'Attilio will repeat his presentation "The Periostracum of Mollusks" at the November 10th meeting.

A NOTE CONCERNING EGG CASES OF NERITIDAE

by Dorothy Raeihle

Last spring egg cases began to appear in the tank with the Florida Nerites. (I have Nerita peloronta, N. versicolor, and Neritina virginea.) The egg cases are creamy-white ovals averaging 3 2/3 mm long and 2 2/3 mm wide, in height perhaps 1 mm, with the surface covered with tiny, solid spheres. Of a hard, shelly material, their edges are so securely fixed to the rocks that it is difficult to get them off without shattering them. There is a tough, thin, semi-transparent underside to the capsules. Observations were frustrating until I realized that the incubation period is rather long -- somewhere around two months.

During the high production months of August and September smaller cases of similar structure appeared (1 mm long, rounder, fairly smooth surface) and these I attribute to the Neritinas. Two of these tiny cases were deposited on the side of the aquarium (perfect for observation). There were 33 yellowish eggs that seemed to have been laid in a string, coiled from the center out to the perimeter of the case. Unfortunately they did not develop. Not one Nerita has cooperatively deposited even one of its larger cases on the glass, but from what I have seen I think their eggs are laid in the same pattern.

Of six Nerita egg cases deposited August 18th, two, opened September 8th, seemed to contain nothing, although other cases opened at about that age had contained eggs. Another, opened September 16th, contained embryos (lumpy little things), with a nurse egg right up where eventually would be the aperture of the shell, and tiny flickers that indicated cilia. Two more, opened September 21st and 26th, had immature veligers with eye spots, two small velar lobes with short cilia, a foot with a scalloped edge (5 scallops), and each was dragging its nurse egg. They turned, as veligers do, but slowly. The shell had just started to form--it was like a shallow dish curved slightly inward at one edge. I was surprised to see that the veligers in a case varied in size. I attempted to make a count, but the best I can say is that there were about 50 to a case. The sixth egg case was empty.

On October 25th I opened an egg case that had been deposited August 29th, almost two months before. Most of the veligers had died in various stages and there were still traces of the nurse eggs, but there were half a dozen alive and quite well along in their development: The nuclear whorl and operculum were formed, the velar lobes were larger with lengthened cilia. The fragile shell was now big enough to contain the animal. Next day one veliger was still active, swimming just off the bottom of its little aquarium with its foot well extended.

WELCOME TO OUR NEW MEMBERS:

Mrs. Jewett Alta, 680 Tiffany Street, Bronx 59, New York
Mrs. Philip Hano, 515 East 89th Street, New York, N. Y. 10028
Mrs. Lewis P. Mandel, 111-19 60th Avenue, Forest Hills 75, New York
Mr. Edward Tricomi, Sr., 54-02 39th Avenue, Woodside 77, New York
The Yucaipa Shell Club, c/o Mrs. Howard L. Fletcher, 1008 La Hermosa Drive,
Redlands, California

Please note these changes in address:

Mrs. Marion Burger, 1445 Shore Parkway, Apt. 4K, Brooklyn 14, New York
Mrs. Dennis Hamilton, 78 Riverside Drive, New York, New York 10024

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Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst, New York 11373
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The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, DECEMBER 8th, 1963, at 2:00 P. M.

PROGRAM: Dr. Tucker Abbott - Expedition to Bay of Bengal
AND -- Dr. Joseph A. Abramson on "ASIA" (with slides)

These NOTES are distributed by mail to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership $3 per year, $1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership $2 per year. A limited number of back issues of the NOTES are available at 25¢ postpaid per single copy. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y of any change in address.

A NEW SERIES OF MONOGRAPHS ON CUBAN LAND MOLLUSKS

In a recent issue of Readers Digest, there appeared an item about the National Science Foundation allocating $10,400 to Harvard for a project called "Monographs of the Land Mollusca of Cuba". The item was quoted from the Chicago Tribune. The undersigned took the trouble to send off a hurried inquiry to Dr. William J. Clench, the head of the mollusk division of the Museum of Comparative Zoology of that University. He received the following reply: "Yes, I received a grant for Aguayo to work up, monographically, certain families of Cuban land mollusks. This was a play on subject matter -- rather than a play on words -- which the Readers Digest picked up from the Chicago Tribune."

Dr. Carlos Aguayo, formerly of Havana University, now in Mayagüez, Puerto Rico, is probably the outstanding student of Antillean land shells in the world today. It is a matter of rejoicing that the National Science Foundation saw fit to provide this scholar with sufficient funds to continue his studies, the most valuable ones on this fauna being performed in the world today. (Castro's Cuba has other problems and no time for molluscan studies.)

mkj

WELCOME HOME!

Catherine Ahders Schmitt, returned from Italy, is domiciled at 511 W. 112th St., New York 25, N. Y., and Mrs. Richard Klepper, back from Singapore, is at home at 215 West Shore Drive, Oakdale, L. I.

GARDEN STATE FIELD TRIP

by Harry G. Lee

Undaunted by ominous skies, a group of nine Garden State Shell Club members, together with family and friends, on May 11th, 1963 made their way to a predetermined meeting place near the Milford-Montague bridge in Sussex County, New Jersey. The purpose of this assemblage was to learn a little something of the terrestrial mollusca which on a number of previous occasions had been found thriving on a little plot of land extending east from the New Jersey bank of the Delaware River for about ½ mile. After mobilizing our forces at about 11:00 AM, we moved west along the gravel road leading toward the river from the junction of routes 206 and 511.

The sun had yet to make a full-fledged show of it, and the morning dampness was still thick on the ground and underbrush. With these conditions we were able to catch a few of the larger, normally retiring species actively crawling about on grass stems, moss, and bark fragments. *Mesodon thyroidus* and *Succinea ovalis* were certainly the most abundant along the roadside as we made our way deeper into the woods. An antique stone fence followed every bend in the road, and before too long it was disturbed by collectors enough to uncover droves of *Anguispira alternata*. *Stenotrema fraternum*, and young *Mesodon thyroidus*. One of the more patient members of our group, Mr. Sam Freed, and the writer sat down for about 20 minutes at the foot of the wall and were able to pick out no less than ten species of minute pulmonates, including some records, at least for the county.

Mr. Freed and Mrs. Germer found single living specimens of *Mesomphix cupreus* at the bases of ferns a little further along the trail. *Triodopsis tridentata* was immediately suspected when a number of dead shells and fragments were uncovered in and along the wall, but it was some time before Mrs. Zager found the first living one. Closer examination showed that we had the subspecies *juxtidens*. Eventually everyone had a number of live ones. They promised to be fine cabinet specimens as the lip was aglow with a purplish flush. *Discus cronkhitei*, *D. c. catskillensis*, *Zonitoides arboreus* and *Z. nitidus* appeared less frequently but were found throughout the extent of the wall.

A large clearing marked the end of the road and the beginning of the short but steep decline to the river's edge. To the north an area had been cleared of timber, and a patch of May apples and other assorted weeds had advanced into this space extending a few hundred yards along the ridge. The big snails, *Anguispira* and *Mesodon*, were common on the stems of the herbaceous undergrowth and abundant under scattered pieces of bark throughout. *Ventridens suppressus* was first uncovered by Mr. Kroczynski, and at last count over a dozen living specimens were taken.

Approaching the embankment from which the mighty bridge was slung, Messrs. Heyman and Kroczynski along with the writer found themselves isolated from the rest of the group. In a few minutes three rather uncommon species were taken in fair numbers. The artificial talus slope was probably created by the clearing of the higher areas for the bridge foundation. Erosion was fairly evident, and for this reason the calcareous rocks were exposed. The abundance of dead shells was amazing; mostly *Mesodon* and *Triodopsis* in the immature state were taken. Among the rock fragments were notably *Stenotrema hirsutum*, *Pupoides albilabris*, and *Gastrocopta armifera*, the three species to which I have already alluded.

After being beckoned back to the rest of the group by pangs of hunger, we were shown Dr. Eddison's specimen of Cionella lubrica, a normally urbanophilic species much out of character in rural New Jersey. The noted ornithologist Miss Marian Kent reported an Indigo Bunting, an uncommon and beautiful species. Lunch followed at streamside, and an ardent search between courses for Vertigo proved in vain. Single living specimens of Oxyloma decampi gouldi and Carychium exiguum, taken from the moist roots of grass, proved enough to stimulate recovery of injured morale. Between posing casually for Bob Heyman's camera and gobbling Sam Freed's pecan cookies, the group reveled in its discoveries. The recently apparent sun adjourned the picnic at about 3:00 PM.

Checklist of Testaceous Terrestrial Gastropods
from
Montague, Sussex County, New Jersey

Carychium exile H. C. Lea 1842
Carychium exiguum (Say 1822)
Stenotrema fraternum (Say 1824)
Stenotrema hirsutum (Say 1817)
Triodopsis albolabris (Say 1816)
Triodopsis tridentata juxtidens (Pilsbry 1894)
Mesodon thyroidus (Say 1816)
Anguispira alternata (Say 1816)
Discus cronkhitei (Newcomb 1865)
Discus cronkhitei catskillensis (Pilsbry 1898)
Cionella lubrica (Müller 1774)
Hawaiia minuscula (Binney 1840)
Ventridens suppressus (Say 1829)
Mesomphix cupreus (Rafinesque 1831)
Punctum minutissimum (H. C. Lea 1841)
Retinella electrina (Gould 1841)
Retinella indentata (Say 1823) (leg. H. Lee 7/21/62)
Zonitoides arboreus (Say 1816)
Zonitoides nitidus (Müller 1774)
Striatura milium (Morse 1859)
Euconulus fulvus (Müller 1774)
Oxyloma decampi gouldi Pilsbry 1948
Succinea ovalis Say 1817
Pupoides albilabris (C. B. Adams 1841)
Gastrocopta pentodon (Say 1821)
Gastrocopta armifera (Say 1821)
Gastrocopta contracta (Say 1822)

"OUR MOLLUSKS LIVE IN THE DARNDEST PLACES"

Dorothy Germer reports:

Discus rotundatus Muller, under a board, Maywood, New Jersey
Vallonia pulchella Muller, under wet paper, Paterson, New Jersey
Triodopsis albolabris Say, under poison ivy, Sandy Hook, New Jersey

And sends in a correction:

The Mesodesma arctatum found at Sandy Hook (Notes #95, p. 4) were alive, with a lovely iridescent green periostracum . . (Which makes the find very unusual! --Ed.)

TWO NEW LOCAL DISCOVERIES

In recent days two reports of new and interesting discoveries were received in the American Museum of Natural History:

Mr. George C. Colantonio, Jr., of 214 Warren St., Jersey City 2, N. J., sent in a small series of Littorina irrorata which he had collected at the Manasquan Inlet Railroad Bridge in New Jersey. This species, which once was not rare in our area, seems now to be dying out at the northern edge of its range. Clench (Johnsonia, 7, p. 7, 1943) is convinced that it is dead in New England, due probably to the increasing coldness of the local waters. His most recent record for our own area is Orient Pt., Long Island, where the "species is very rare". Most of the other local records seem to refer to dead shells.

Manasquan is in Monmouth County, about 23 miles south of the Atlantic Highlands. As Jacobson and Emerson state in their "Shells of the New York City Area" (1961, p. 53), the species is abundant in Maryland, the type locality being the Little Choptank River, near Cambridge. However, the colony discovered by Mr. Colantonio is a good deal north of this region and close enough to New York City to be of considerable interest to us. It will pay to keep a watch on the Manasquan colony to see if Dr. Clench's idea of the disappearance of the species is correct.

Mr. Harry Fertik of 212-03 75th Avenue, Bayside, Queens, sent in some Viviparus contectoides Binney which he had found "by the hundreds" in Oakland Lake, east of Springfield Blvd. and south of Northern Blvd, near Queens Community College. This species is now found, as reported by Jacobson and Emerson (1961, p. 35), in Central Park, Manhattan, where its introduction was probably accidental. Up to now there was no Long Island record for the species and hence Mr. Fertig's is the first. However, this also seems to be a recent introduction similar to the one in Central Park. Since the species seems to do so well when introduced into the New York City area, it is surprising that it did not reach here long ago by "natural" means from upstate New York and elsewhere.

There is some doubt about the correct name for this species. Recently Dr. Clench has maintained that what we have been calling V. contectoides Binney should actually bear the name Viviparus georgianus Lea. We will discuss this point in a future article.

Lots of both species have been deposited in the collection of the American Museum of Natural History.

. . M. K. JACOBSON

ON PRESERVING FRAGILE SPECIMENS

Last May Mr. and Mrs. George Stephens told us of collecting Miocene shells in Virginia, and of how they strengthen these fragile fossils with a plastic preparation. Here are their directions:

Dissolve 2 to 4 tablespoons of the plastic crystals in one pint of C. P. acetone. Use the weaker solution (2 or 2+ tablespoons per pint) for general coating, and the stronger solution (3 to 4 tablespoons per pint) for holding cracked items together before cleaning out interiors.

The plastic product is: ALVAR 7/70 crystals, $1.35 per pound, obtainable from: Shawinigan Products Corp., 1317 Empire State Bldg., 350 Fifth Ave., New York 1, New York.

C. P. Acetone may be obtained from paint stores.

DREDGING IN THE EAST GULF OF MEXICO

by William E. Old, Jr.

"What are you thinking about?" asked Dave.

"I was thinking," said Jim, that if we were to splice on that other reel of cable we could dredge a lot deeper."

We were on Jim Moore's boat, a hundred miles out in the Gulf of Mexico, off the west coast of Florida. I had joined them at the dock in Bradenton. Jim Moore, David Sherman and Joe Martino were aboard the "Cavalier" and ready to cast off when I arrived. The "Cavalier" could be classed as a 53' cabin cruiser or as a work boat. At first glance it looks like an excursion boat, since the main deck is roofed over. The most striking thing about the craft is that it has two large davits on the stern which hold the dredging cables.

We had waved "good-by" to those on shore -- Dan and Barbara Steger (who had brought me down from Tampa) and Mrs. Moore. We began sighting porpoises before we got outside the bay. Once a school of them began racing the boat and one, a bottle-nosed dolphin, leapt clear of the water in its exuberance. It was the first time I had seen non-aquarium specimens so close.

The Gulf of Mexico shelves off very gradually. It takes about fourteen hours to get out as far as the 100-fathom line (600 feet). However, once that depth is reached, from then on the bottom drops off much more rapidly. When Jim Moore goes out on a dredging trip he plans to stay about a week.

One thing cannot be repeated too many times -- dredging is not easy. It is not a matter of throwing over a dredge and bringing it up again full of choice shells. Very often it comes up entirely empty, or with very little rubble and few, if any, shells. Dredging for shells has to be a "labor of love". This is true of those who have carried on dredging operations in Florida, such as the McGintys, the Donovans, the Stegers and, currently, Jim Moore.

As we rolled along the first afternoon I spent a lot of time watching the flights of flying fish. About dusk, I noticed one flapping its wings! Too small for a sea bird, it was a small sparrow-sized land bird well over a hundred miles from shore. David Sherman said that he had once been aboard a boat that attracted 31 species of land birds. We acquired only four: Nashville warbler, barn swallow, yellowthroat, and cattle egret. Sea birds were rarely seen and, oddly enough, man-o-war birds, brown pelicans and cormorants were not seen out of sight of land.

We trailed lines and hooked three bonito. Often we passed churning schools of fish leaping frantically from predators, presumably larger fish. The first night out we set a night dredge in 600 feet, having baited it with a burlap bag of bonito meat. Dave and Jim were anxious to obtain more specimens of an isopod that had cleaned a fifty-pound fish head down to the bone the previous year. We also set a shark line, baiting it with a bonito head. "Get a sniff at that, little sharkies", said Dave, as he lowered the fragrant mess over the side. Finally we wandered off to our bunks and were rocked in the cradle of the deep.

May 22: Early in the morning I was half-wakened by a flapping noise outside my porthole. "A dog running along deck?" I mused. Then I came more fully awake and realized that it was something on the shark line. "I'll

see it later", I thought, and was about to doze off when I heard the starting of the generator that held the dredge cable. Not wanting to miss this, I put in an appearance. Finally the heavy dredge was brought up and it contained seven snappy moray eels and little else.

Later in the morning porpoises began to converge around the boat. By twos and threes they came from all points of the compass, until there were twelve or fifteen around the boat.

"They check the bow, the stern, the keel and the dredge to see if everything is in order", said Jim. "Last trip one played around the dredge like a puppy." On this occasion, when we started the generator to haul in the dredge the porpoises swam off to the east. The generator's vibration attracted my pet dislike -- sharks. A couple were taken on baited lines, since Dave wanted a nice set of shark jaws and teeth.

Dredging proceeded through the day. Imagine my elation the first time I found a specimen of Conus rainesae in a haul -- or a Murex beaui, or a Latiaxis dalli!

In the afternoon Jim decided to splice on more cable, enabling us to dredge in 1200 feet -- deeper than he had ever been before. At this depth a haul took about two hours. Half an hour to set the dredge, after which it was left on the bottom for about 45 minutes, and half an hour to bring it up. Actually, the appearance of even a cable splice coming up seemed a milestone.

That evening Jim decided to use the tri-net. "I've taken a lot of good shells in this", he explained, "including small shells which were packed tight and didn't fall through the mesh." Since the tri-net took a 12' "bite" as opposed to 3' for the dredge, we were anxious to see what would come up. When finally it appeared, it was like opening a huge Christmas stocking. "Turgurium longleyi!" exclaimed Jim. "The first I've ever taken." All but one were alive and a large commensal worm, orange with brownish-black bands, was to be found in the umbilicus of each specimen. The net was full of strange fish and crustaceans. At that depth the specimens were either bright red or gray in coloration. In fact, they are similar to those found off Japan and the coast of East Asia.

The next morning we took only one T. longleyi and from then on found only Tugurium caribbaeum in the dredge. It may be possible that T. longleyi are more active at night, but it is more likely that we had drifted away from the colony during the night.)

May 23rd: We used the tri-net all day. Sargassum weed was floating by, so we netted quite a few pieces to examine. In color, sargassum weed is a pale tan. It is like a little world with a fauna of its own. There is a species of sargassum crab, sargassum shrimp, sargassum nudibranch, and others. All are brown with blackish and white markings. Perhaps loveliest of all is the sargassum fish, Histrio histrio. The large one we netted was brown with black and orange fins; the small one was black and orange all over. Beneath each clump of sargassum weed tan file fish were usually encountered.

Portugese-man-o'war was rather plentiful, and, swimming beneath them, the beautiful man-o'war fish -- blue with red bands. Sharks were frequent visitors around the boat, one of which was accompanied by a little banded pilot fish. Joe fished for dolphin (the dolphin that is a fish; not the mammal that is called a porpoise).

One night we stopped in a calm spot and turned on lights. Three huge,

Many sharks came up into the lights and swam close to the boat, but well beneath the calm surface. A bonito head was lowered over the side but (to my disgust) it contained no hook. A big shark came up and took it in one gulp.

Nearby was a school of small fish. It is almost unbelievable how tightly packed they swim. And the rapid movements give the effect of looking into a kaleidoscope. The turns, spins and pirouettes go on like precision drilling -- wheel, turn, scatter, re-form!

Sometimes we would find fragments of rare _Voluta_ in the hauls, but rarely a complete specimen. Fresh fragments of _Eudolium crosseanum_ were rather exasperating. Finally we obtained two small, intact specimens of this rare species. Perhaps one of the rarest shells taken on the trip was a specimen of _Pseudomelaxis nobilis_. And once at 1200 feet the dredge dug into gray mud in which Jim found a single living example of an odd bivalve. So far, none of the specialists on Florida shells have been able to identify it.

Friday evening: Rough water and squall warnings. They weren't fooling!

Saturday morning: After a very rough night, we headed for shore and home.

GLEANINGS FROM BROWSING IN OLD NUMBERS OF NAUTILUS

*That _Polinices_ has been seen to capture and devour _Ensis_ by enveloping it in slime that seems to have some anaesthetic qualities.

*That the USA would be inviting disaster if it permitted the importation of the predatory snail _Gonaxis_ to control _Helix aspersa_ and _H. aperta_ in California. This apparently never was done.

*That there are new and beautiful species of _Humboldtiana_ -- a magnificent globose land snail -- in the Sierra Madre of Mexico (and I wish to heck I could go there).

*That _Arctica islandica_, the large Black Quahog of New England, is being harvested, cleaned and sold frozen for food.

*That cones sting other cones and kill them. _Conus textile_ was observed killing _C. geographus_ by stinging it in the foot. The textiles also killed Cypraeas, but rejected Oliva and Nassarius. (Dr. Kohn showed that they also catch and kill fish.)

*That a small, white, quite beautiful little parasite (Mucronalia) makes its nest in the spines of sea urchins in Florida. The infected spine becomes swollen and remains stunted in growth.

*That I wish I had gone to that locality in Central Tennessee to collect some _Ventridens intertextus eutropis_ Pilsbry. There is great danger that since 1955 the locality has been destroyed by the widening of U. S. 41.

*That in 1954 a live example of the eastern geoduck (_Panope bitruncata_ Conrad) was taken at Matanzas River, St. Augustine, Florida. It lived 4 feet below the surface of a mud bank.

*That _Neptunea decemcostata_ has two beautiful subspecies: _N. d. clenchi_ Clarke (longer and thinner than usual) and _N. d. turnerae_ Clarke (shorter and stouter).

*All items drawn from volume 69, 1955 - 1956.

mkj

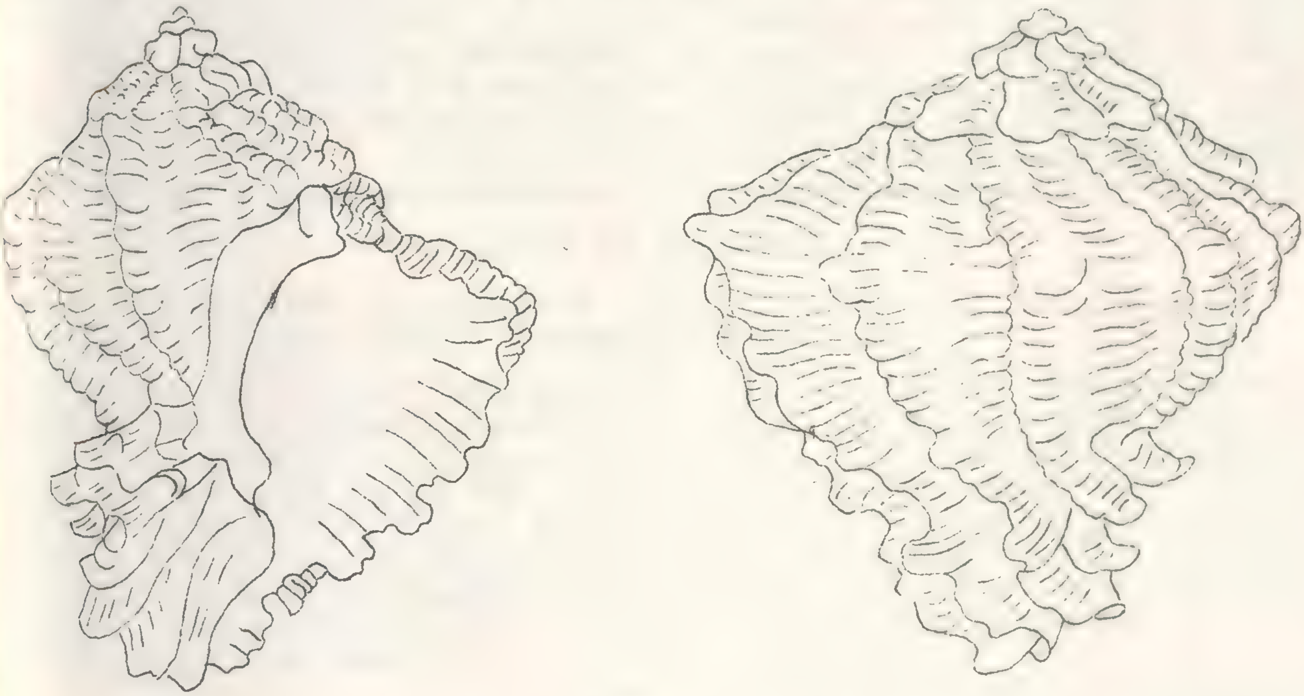
REDISCOVERY OF AN ARABIAN SEA MUREX

Anthony D'Attilio

Murex spinosus A. Adams was described in 1851 (Proceedings of the Zoological Society of London) without illustration, locality, or reference to type, etc. It was subsequently illustrated by Sowerby in the "Thesaurus" (1880, figs. 180, 181). Tryon in "The Manual of Conchology" placed it in the synonymy of Murex turbinatus Lamarck, a species known to occur on the West African coast. Maxwell Smith in "The Rock Shells" listed it as Murex turbinatus spinosus A. Adams.

A number of specimens of what is apparently Murex spinosus have been received recently from Muscat, Oman, on the Gulf of Oman. Two other species, Murex anguliferus Lamarck and Murex ramosus Linné, also are known to occur in this general area of the Arabian Sea. Unlike these last two species, which have three varices, Murex spinosus belongs to the group of brassica, endivia, and trunculus, which have five to six or more varices. It is a solid, large, chunky white shell when mature. The little information available for this species suggests an apparently obscure history.

Receipt of information as to other localities where this species is known to occur will be much appreciated by the writer.



MUREX SPINOSUS A. Adams
1 X 1

The Club welcomes: Mr. & Mrs. Fred Ritter
225 Adams Street
Brooklyn 1, N. Y.

And: Mr. Phillip W. Clover and/or
Navy 535 Box 10
F.P.O. San Frisco, Calif.
zzU.S.A #96623

Mr. Phillip W. Clover
U. S. Navy Comsta c/o P.O.
San Antonio, Zambales
Luzon Philippines Is.

NEW YORK SHELL CLUB NOTES No. 97 Dec. 1963

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Public Relations
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Historian
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Treasurer
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Staten Island 10, N. Y.

Editor: DOROTHY RAEIHLE, 7924 Ankener Avenue, Elmhurst, New York 11373
Assoc. Editor: ANTHONY D'ATTILIO Special Editor: M. K. JACOBSON

The NEW YORK SHELL CLUB meets on the 2nd Sunday of each month, September through June, in ROOM 319, AMERICAN MUSEUM OF NATURAL HISTORY

NEXT MEETING: SUNDAY, JANUARY 12th, 1964, at 2:00 P. M.

PROGRAM: LIVE MOLLUSKS CAPTURED ON COLOR SLIDES
by George Raeihle

SHELL-OF-THE-MONTH by Louise A. Travers

DISCUSSION OF PLANS FOR OUR FORTHCOMING AUCTION.

These NOTES are distributed by mail to both regular and corresponding members of the NEW YORK SHELL CLUB. Dues: Full membership \$3 per year, \$1 for each of other members of the same family, with one copy of NOTES per family. Corresponding membership \$2 per year. A limited number of back issues of the NOTES are available at 25¢ postpaid per single copy. Items and articles for publication are welcomed by the NOTES and should be sent to the EDITOR. Notify Corres. Sec'y of any change in address.

THE WORLD OF SEASHELLS

A series of 8 lectures on Tuesdays from 7:30 - 9:00 P. M. (February 11 to March 31) . . . Fee \$12.00 (Museum Members 10.00)

Where can you find exotic shells in the New York area? Are any mussels poisonous? How are shells classified? These as well as many other questions will be answered in this unusual series of slide-illustrated lectures. Emphasis will be on the identification of shells, with additional comments on life histories and economic use. Shell specimens from the Museum Collection will be shown. Designed for the interested amateur as well as for the more specialized shell collector. Lecturer: Morris K. Jacobson, former President, New York Shell Club, and co-author of "Shells of the New York City Area".

(Announcement by the Dept. of Education,)
(The American Museum of Natural History.)

Note to above: This course of lectures highly recommended. (Ed.)

PALM BEACH COUNTY SHELL CLUB SHOW

The Palm Beach County Shell Club's Show will be a "must" for those of you who will be in Florida this winter. An annual event that seems to be bigger and better each year, this year's show will be held at the Palm Coast Plaza in West Palm Beach, Florida, February 18th thru 22nd, and will be open from 11:00 A. M. to 10:00 P. M.

DR. R. TUCKER ABBOTT VISITS NEW YORK SHELL CLUB

At our December meeting we again had the pleasure of having as guest speaker Dr. R. Tucker Abbott of the Academy of Natural Sciences of Philadelphia. He gave us a color slide presentation which graphically illustrated his field work as malacologist on the recent expedition of the oceanographic vessel "Anton Bruun" to the waters of the Indian Ocean and Bay of Bengal. The expedition was part of a five-year international survey of the Indian Ocean which until recently had been least known oceanographically of all the seas!

During his time in the area, Dr. Abbott was able to meet personally his correspondents in Thailand (missionaries who were also ardent shell collectors) and spend a month with them on the Island of Phuket. Off the coast of Thailand in the Bay of Bengal, Phuket is a beautiful island with a rocky coastline, and they worked in the bays in water of 80-82°F. They found the fauna rich and quite different from that of the South China sea, it being related only to that of the Indian Ocean.

A commercial operation to obtain tin from underwater sources gave another opportunity to collect shells: The draggings were fed through an 8-foot tunnel perforated with colander-like holes through which the particles of tin dropped. As the dragger picked up species not too easily obtainable, Dr. Abbott stationed himself astride the streaming residue at the end of the tunnel and grabbed shells as they came through, alertly missing the occasional turtle or small shark.

Inland, he found the Thai countryside very much like that of the Philippines, with high sheer limestone outcrops and enormous limestone caves where he collected land mollusks.

A shorter time was spent in India, but Dr. Abbott reported that collecting at Bombay was moderately good. We will not forget the picture of a brownish sand beach and the crowd that closed in to "help" the collectors.

We were shown color slides of priceless specimen shells: Cypraea (princeps) valencia, most wanted; the beautiful Cypraea guttata of which there are only 16 known specimens (the 16th being found in a fish stomach); Voluta, delicate Murex, Strombus, Conus, etc. -- collectors' dreams.

Of the live mollusks pictured, there were Terebra mediata with its orange animal extended, and a Harpa with its very large animal patterned to blend with the shell it made. A malacological note: Dr. Abbott told us that Harpa can break off sections of its foot (as does the salamander) to escape enemies. And Phalium glaucum, spectacularly beautiful, made us long to have one in an aquarium.

Aboard the Anton Bruun we were shown the Bé nets for taking samples of plankton and algae, the net trawls that brought up miscellany ranging from guitar fish to delicate shells that amazingly survived the taking, and the familiar metal mesh dredge commonly used to obtain deepwater shells. Here, too, even as in less exotic waters, the nets and dredges came up from time to time clogged only with muck -- discouraging for a shell collector, but important also to oceanographic research.

* * *

Re: INDO-PACIFIC MOLLUSCA, Dr. Abbott reported that Dr. Powell's work on TURRINAE is in the printers' hands, a few months later will come Dr. Abbott's number on CASSIS, and Dr. Rosewater's TRIDACNA will follow soon after.

A capacity audience was on hand to hear Dr. Abbott, and our sympathy is with those who were unable to attend.

ANOTHER FOE OF ACHATINA

That shell pest, *Achatina fulica*, that has been plaguing the Far East and Hawaii has been fought by many methods, all interestingly described (as previously noted by the present writer in NOTES #90) by Dr. Albert R. Mead of Arizona University. In a recent issue of the magazine MALACOLOGIA (vol. 1, p. 305-311) he calls attention to still another very effective foe of the Giant African Snail. This is a flatworm known as *Geoplana septemlineata* Hyman, endemic in the Hawaiian Islands and apparently one of the most effective biological controls of Achatina known to date. Dr. Mead paints a grisly picture of an Achatina under attack:

". . . in the vicinity of these worms, a snail is soon seen with a number of worms crawling almost frantically in its wake. The directive motion of the worms permits them soon to overtake the snail with its hesitant, probing locomotion. One after another crawls upon the hapless victim until it is apparent that one of the most effective factors is the 'ganging up' of the worms on a snail. . . The prey is unduly sensitive to physical contact with these worms, since it elaborates a considerable amount of heavy, greenish, frothy mucus. This discharge does not discourage the worms. . . The sensitivity of the snail grows more acute with more worms moving into position; and the victim withdraws into its shell, dragging the worms in with it and embracing them in the folds of the invaginated head and tentacles. When many worms are present these all move onto the exposed parts of the snail . . until nothing but worms can be seen. The harassed snail opens the pneumostome (breathing pore. MKJ) in a desperate effort to get more air; and some of the worms crawl into the lung cavity. Soon the irritation and congestion in the lung, as evidenced by the copious amount of mucus produced in the lung and bubbling from the pneumostome, causes the pneumostome to remain open, only to permit still more worms to enter until a veritable webbing of black worms can be seen within." It is with relief that we learn that the afflicted pulmonate soon expires under the piercing of many sharp, probing worm probosces.

However, all is not roses for us humans in this situation. With a new and abundant supply of snail food available -- added to by some mistaken biologists who introduced predatory snails to "control" Achatina -- the Geoplana population grew tremendously. Geoplana unfortunately is the vector of a nematode which causes a frequently fatal form of meningocephalitis in humans. And since the flatworms like to rest on lettuce leaves, infected ones can be accidentally eaten by humans. "In fact," concludes Dr. Mead dourly, "a full grown Geoplana was recently found curled up on a bit of lettuce in a tossed salad served at one of the better Waikiki restaurants."

M. K. JACOBSON

EXCHANGE OPPORTUNITY: Mr. Yves Rouget, 12 Place Constantin Meunier, Bruxelles 18, Belgium, is very interested in the American marine fauna, and inquires if one our members would like to exchange Florida and/or California shells for those of his area.

Mr. Rouget is associated with "La Faune Marine - association pour faire connaitre la faune marine sous ses différents aspects." He has been most kind in sending a representative collection of shells from the Belgian coast which will become a part of the museum collection.

A presentation before the Club is planned for the near future of the Belgian shells and comparable forms of our own section.

AFTER THE DOWNPOUR --

The sun was shining, it was warm with a mild breeze, a beautiful day with a well timed low tide. This was Sunday, June 16th, just 24 hours after the annual field trip had been rained out. My husband and I had stayed over in Southold rather than drive back on Saturday through the rain. We collected on a lovely crescent-shaped beach for about two hours. Below is a list of the shells found and we weren't tired -- just happy with our treasures from Peconic Bay.

ALIVE:

Aequipecten irradians Lamarck - - - very shallow water on sand
Anadara transversa Say - - - - - - " " " under stone
Anomia simplex D'Orbigny - - - - - - on stones near low tide line
Bittium alternatum Say - - - - - - - on seaweed
Busycon canaliculatum Linné - - - - (juvenile) in very shallow water
Chaetopleura apiculata Say - - - - under rocks near low tide line
Crepidula fornicata Linné - - - - - - on pectens and stones
Crepidula plana Say - - - - - - - - - on dead shells
Ensis directus Conrad - - - - - - - - (juvenile) shallow water in sand
Eupleura caudata Say - - - - - - - - shallow water on sand & near stones
Gemma gemma Totten - - - - - - - - - shallow water in sand
Hydrobia minuta Totten - - - - - - - on seaweed
Laevicardium mortoni Conrad - - - - shallow water in sand
Littorina littorea Linné - - - - - - among weeds and on small stones
Littorina saxatilis Olivi - - - - - " " " " "
Mya arenaria Linné - - - - - - - - - shallow water in sand
Nassarius obsoletus Say - - - - - - " " on sand
Tellina agilis Stimpson - - - - - - " " in sand
Urosalpinx cinerea Say - - - - - - " " on sand & near stones
Venus mercenaria Linné - - - - - - " " in sand

DEAD, at the high tide line:

Brachidontes demissus plicatulus Lamarck
Busycon carica Gmelin
Busycon egg cases
Nassarius trivittatus Say
Petricola pholadiformis Lamarck
Polinices triseriatus Say
Tagelus plebeius Solander

LATER IN THE SUMMER THESE THREE WERE ADDED, ALIVE:

Busycon carica Gmelin - - - - - - - - shallow water, buried in sand
Lyonsia hyalina Conrad - - - - - - - shallow water, abundant on sand
Solemya velum Say - - - - - - - - - - shallow water, one specimen on sand

. . . . DOROTHY JENSEN

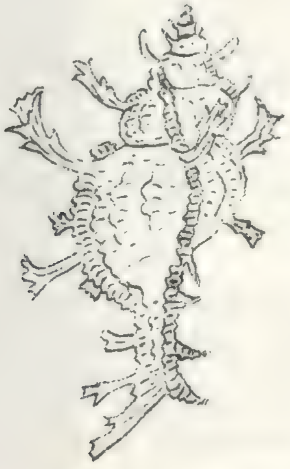
COLLECTION FOR SALE: A catalogued display collection of world-wide shells, beautifully set up in two lighted display cases, is offered for sale by Mr. Robert Heyman, 2455 Seymour Avenue, Union 5, New Jersey. Telephone: Murdock 8-8839.

NYSC MEMBERS, RALLY 'ROUND! You who are about to visit far places, you local collectors and you armchair collectors, too -- remember to collect some shells for our auction which is tentatively planned for April. Literature on shells is wanted, too!

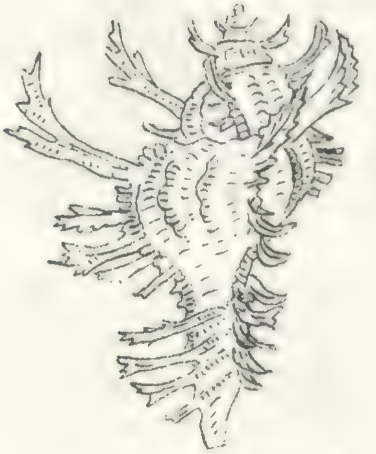
LOCALITY DATA NEEDED ON TWO MUREX SPECIES

by Anthony D'Attilio

Among marine shells received recently from several sources the following species presented some problems in identification. Figure 1a, below, has been referred to *Murex axicornis* Lamarck by various authors, including Reeve, who, in the "Iconica" Murex, pl. 10, fig. 37b, remarked that he had considered naming it but on Sowerby's advice referred it simply as a form of *axicornis*. There have been no further comments on this subject since the publication of the "Iconica" in 1853. Although this concept has not hitherto been questioned by any worker, it is the opinion held in this paper that fig. 37b, pl. 10 of the "Iconica" is separable, on evident shell characters, from *Murex axicornis* Lamarck.



Murex axicornis Lam. 1822
1 x 1



Murex axicornis of some authors.
Fig. 1a 1 x 1

Specimens in my collection of this probably unnamed form are from the following localities: Queensland, Australia; Mozambique, East Africa, and Zanzibar, East Africa. *Murex axicornis* Lam. has been found, at the present time, in the Philippines.

SHELLS IN LITERATURE

Shell references crop up in the most unexpected places. Thus the classical Spanish poet, Luis de Góngora (1561-1627), for whom incidentally a whole style of Spanish poetry (Gongorismo) is named, wrote thus touchingly about the charms of our hobby:

"Busque muy en hora buena/ el mercader nuevos soles;/ yo conchas y caracoles/ entre la menuda arena/ escuchando a Filomena/ sobre el chopo de la fuente;/ y ríase la gente."

A crude English version would run somewhat as follows: "Let the merchant if he pleases/ look around for new dollars;/ I for shells and snails/ will search in the fine sand/ and listen to the nightingale/ sing in the poplar by the fountain;/ and I don't care if people laugh." Members will not fail to observe the cunning tie-in with our local bird watchers.

MKJ

COLLECTING ON NORTHEASTERN SHORES OF LONG ISLAND

by Lawrence Potter

On August 1, 1963, I had the opportunity to do some collecting on our northeastern shores. Since I visited several places, I was in each for only a few minutes (with the exception of Conkling Pt.), just to sample the fauna.

I made my first stop at Mattituck Inlet, collecting about a mile east of the actual inlet. There is one road running parallel to the shore, with a dead end. At the end of this road is an old dirt continuation which leads to the bluffs overlooking Long Island Sound. These bluffs are formidable and steep, but there is a sort of rut that can be followed down. I did, and found the beach collecting to be fair to poor.

After this I proceeded to Horton's Point. Here there is a lighthouse and museum, so it is not too hard to find. There is a wooden staircase with many levels by which one can descend the steep slope. There are more boulders here than at Mattituck Inlet, and the area offers better collecting. The beach material is fair, but in the water one can collect all the *Littorina littorea* one wants. I did not find any *Busycon carica* alive, but a local resident told me they come in later in the summer. The habitat is exactly like Jenning's Point, Shelter Island, where I have found this species alive.

After this I sampled Rocky Point, which was a disappointment. There was nothing at all on the beach, and in the water there were only a few periwinkles. Much of the area is marked "private". There are many intriguing boulders in this section to the west of the thin strip on which the public is allowed, and I suspect the collecting to be better there.

Next I came to a fairly productive area in which I would have liked to spend more time, namely, Long Beach Bay, at Orient Point. Marian Schroth's excellent and interesting article in the June-July-August, 1963, issue of NOTES deals with this area. Her check list is much more complete than mine. I found one species that she did not, and mention the others only for the ecological notes. The bay has a pebbly-muddy bottom, and I had great success wading knee-deep with my water glass. I found many paired duck clams, also an old *Littorina littorea* with a live hermit crab in it. (I later extracted the crab whole and it is now preserved.)

After this I went back to a favorite area, Conkling Point. It is excellent in beach material, and I highly recommend it. (For this area see my article in the April, 1963 NOTES) I re-visited it and was very pleased with the results. However, I was disappointed in the lagoon. Much of it was choked with seaweed and I was unable to collect where I had previously found all the scallops.

Flanders Bay, near South Jamesport, was the last stop of the trip. When I arrived in this area it was pouring rain, so I collected for only a few minutes. In the light of what I found, I would venture to say that the area might perhaps prove to be promising. The bay has a shallow pebbly-muddy bottom, with swamp growth to the east.

Abbreviations used in the listing which follows -
designating locations where various species found:

C.Pt. = Conkling Point
Bch. = " Pt. beach
Lag. = " " lagoon
Fl.B. = Flanders Bay

H.Pt. = Horton's Point
LBB = Long Beach Bay
Mat. = Mattituck
R.Pt. = Rocky Point

com. = common
unc. = uncommon
* = alive
** = alive and dead

Collecting on Northeastern Shores, continued: (Potter))

Aequipecten irradians Lamarck : LBB common, C.Pt. bch. & lag. common
Anachis avara Say : Mattituck, rare in drift
Anomia simplex D'Orbigny : " common, C.Pt. beach common
Brachidontes demissus plicatulus Lamarck: Fl.B. large colony*, C.Pt. bch. unc.
Busycon canaliculatum Linné : C.Pt. bch. (less common than B. carica)
Busycon carica Gmelin : Mat. unc. fragments, H.Pt. unc. fragments & immature, LBB unc., C.Pt. com. bch. and lag. fragments.
Crepidula fornicata Linné : Mat. com., C.Pt. ** beach and lagoon
Crepidula plana Say : H.Pt. rare; C.Pt. ** unc. bch. & lag.
Ensis directus Conrad : LBB unc, C.Pt. bch. common to uncommon
Eupleura caudata Say : LBB ** uncommon, C.Pt. unc. on beach
Haminoea solitaria Say : Fl.B. (1 dead in old Brachidontes shell)
Laevicardium mortoni Conrad : LBB com. (Knee-deep water), C.Pt. unc. lag.
Littorina littorea Linné : Mat.** unc., C.Pt. bch. com. to unc., R.Pt.*com., LBB*unc., C.Pt.bch.com.to unc.
Littorina saxatilis Olivi : C.Pt. common on beach
Mytilus edulis Linné : C.Pt. common to uncommon on beach
" " pellucidus Pennant: Mat. unc. to rare, C.Pt. bch. unc. to rare
Nassarius obsoletus Say : LBB * common, Fl.B. * common
Nassarius trivittatus Say : Uncommon at Mat., H.Pt. and C.Pt. beach
Petricola pholadiformis Lam. : C.Pt. uncommon both beach and lagoon
Tagelus plebeius Solander : One dead on beach at Flanders Bay
Urosalpinx cinerea Say : Mat. unc., C. Pt. common on beach
Venus mercenaria Linné : R.Pt. 1 dead in water, LBB unc., Fl.B. & C.Pt. beach common to uncommon

LISTINGS ON LOCALE

Several lists of local marine shells, as reported by our members, are recorded in our NOTES. The number of the issue wherein they are to be found follows the place name:

Bayville	5, (53)
Hamilton Beach	15
Eastern L. I. (Exotic)	51
Northeastern L.I.	97
Northport	75
Orient Beach	63, 73, 93
Peconic area	97
Sandy Hook	83
Sheffield Island	53, 91
Shelter Island	91
Ward Point	24, 53

WE WELCOME THESE NEW MEMBERS:

Mrs. George Stephens
1672 Thomas Lane
Virginia Beach, Va.

Mr. Norman Sandberg
349 West 58th St.
New York 19, N. Y.

Mr. Eugene Ogush
142-10 Hoover Ave.
Jamaica, N. Y. 11435

And welcome home to Miss Katherine Joyner
21 Gramercy Park
New York 3, New York

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